

**AT RISK: AMERICAN JOBS,
AGRICULTURE, HEALTH AND
SPECIES—THE COSTS OF FEDERAL
REGULATORY DYSFUNCTION**

JOINT OVERSIGHT HEARING

BEFORE THE

COMMITTEE ON NATURAL RESOURCES
U.S. HOUSE OF REPRESENTATIVES

JOINT WITH THE

COMMITTEE ON AGRICULTURE
U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED TWELFTH CONGRESS

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**JOINT OVERSIGHT HEARING ENTITLED “AT
RISK: AMERICAN JOBS, AGRICULTURE,
HEALTH AND SPECIES—THE COSTS OF
FEDERAL REGULATORY DYSFUNCTION.”**

**Tuesday, May 3, 2011
U.S. House of Representatives
Committee on Natural Resources, joint with the
Committee on Agriculture
Washington, D.C.**

The Committees met, pursuant to call, at 10:03 a.m. in Room 1324, Longworth House Office Building, Hon. Doc Hastings and Hon. Frank D. Lucas, presiding.

Present from the Committee on Natural Resources: Representatives Hastings, Bishop, Lamborn, Fleming, McClintock, Thompson, Rivera, Tipton, Labrador, Noem, Southerland, Flores, Harris, Fleischmann, Markey, Kildee, DeFazio, Napolitano, Holt, Grijalva, Bordallo, Costa, Sablan, Garamendi, and Hanabusa.

Present from the Committee on Agriculture: Representatives Lucas, Johnson, Neugebauer, Conaway, Schmidt, Thompson, Gibbs, Austin Scott of Georgia, Crawford, Huelskamp, DesJarlais, Ellmers, Gibson, Hultgren, Hartzler, Schilling, Peterson, McIntyre, Cardoza, David Scott of Georgia, Schrader, Fudge, and McGovern.

The CHAIRMAN. The Committee will come to order. The Committee is holding this oversight hearing today jointly with the Committee on Agriculture to hear testimony on “At Risk: American Jobs, Agriculture, Health and Species—The Cost of Federal Regulatory Dysfunction.”

Under Committee Rule 4(f), any oral opening statements are limited to the Chairman and Ranking Member of the respective committees. This will obviously allow us to hear more from our witnesses.

However, any Member that wants to have his speech in the record can do so, and I ask unanimous consent that that be the case. With no objection, so ordered.

At this time, I would now like to recognize and welcome to the House Natural Resources Committee hearing room my colleague from Oklahoma, the distinguished Chairman of the Agriculture Committee for his opening statement and remarks. And with that, I recognize the gentleman from Oklahoma.

**STATEMENT OF HON. FRANK D. LUCAS, A REPRESENTATIVE
IN CONGRESS FROM THE STATE OF OKLAHOMA**

Mr. LUCAS. Thank you Chairman Hastings and Ranking Member Markey for working with Ranking Member Peterson and me on this important topic.

Though joint hearings represent a logistical challenge, the interactions and contradictions between the laws in the programs under

our various jurisdictions suggest that effective oversight will require more cooperation between committees in the future.

Recently, the Agriculture Committee engaged in a joint oversight process with the Committee on Transportation and Infrastructure that led to the successful passage of bipartisan legislation in the House which would eliminate a costly, burdensome, and duplicative regulatory process for pesticides.

While we wait for movement of the bill in the Senate, we now turn our attention to another costly and burdensome regulatory process that is both duplicative and dysfunctional.

In the process of reviewing individual pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act, the EPA assesses more than 120 scientific studies evaluating the product safety and effectiveness.

Pesticides distributed in the United States must be evaluated and registered by the EPA based on scientific data showing they will not cause unreasonable risks to human health, workers, or the environment when used as directed on the EPA-approved product label.

As defined in the statute, the term “unreasonable adverse effects on the environment” includes any unreasonable risk to man or the environment, taking into account economic, social, and environmental costs and benefits of the use of any pesticide.

Once a pesticide is registered, the Federal review process does not end. In fact, the law mandates a process of registration review. The registration review program makes sure that as the ability to assess risks evolves and policies and practices change, all registered pesticides continue to meet the statutory standard of no unreasonable adverse effects.

Despite having a rigorous science-based process in place to register and periodically review pesticides, provisions of the Endangered Species Act, ESA, require that the EPA consult with the Fish and Wildlife Service or the National Marine Fisheries Service, which I will refer to as “Services,” whenever there is any possibility, however remote, that the use of the pesticide could adversely affect, threaten or endanger species. Although no credible evidence has been presented documenting a causal link between the registration of a pesticide and the decline of any listed species populations or rates of recovery, this scientific evidence has done nothing to impede the environmental extremists.

Groups like the Center for Biological Diversity have been clogging our courtrooms with frivolous lawsuits that have cost taxpayers tens of millions of dollars in litigation costs and have further congested an already dysfunctional Federal bureaucracy. Consultation is a process meant to facilitate understanding among and between agencies.

Unfortunately, the consultation process under the ESA is heavily biased toward the European model of a precautionary principle. Should any expert agency ignore the opinion of one of the Services, they risk civil and criminal penalties in the event of the loss of a single plant or animal from a listed species.

Counter to the intent of consultation, the Services have administered a process where they ignore scientific evidence presented by expert agencies. They refuse to consider or even accept public

comment. And, in some cases, they simply ignore the request by EPA for a consultation. Recently, the Services have acknowledged that the scientific models they have used to develop their biological opinions for pesticides are fatally flawed. Thankfully, a request has been made by USDA, EPA, Interior, and Commerce to have the National Academy of Sciences conduct a review of the models used by the Services.

I am hopeful and would expect confirmation from each of the Federal agencies here today that the scope of the work that is contracted will be a comprehensive review, not only of the scientific models used by the Services, but also the models used to analyze the economic impact of any suggested alternatives.

Of further concern, the fact that while waiting for the completion of the scientific peer review, EPA is still being asked to implement the recently finalized biological opinions, which the agency has repeatedly and publically challenged. Given the admission of the fundamental flaws in the Services' models, I would suggest that the Services consider seeking reinitiation of consultation when scientific models have been developed, validated, and agreed upon.

One final note, prior to this hearing Chairman Hastings and I received a letter from the four departments suggesting that due to concerns over pending litigation, they would be unable to answer many of the questions the Committee would be raising.

I would like to make it clear that while I recognize certain questions regarding pending litigation are sensitive, congressional oversight is equally as important and I hope the panelists will be as responsive as possible. I will tell you now that just because a question may be difficult or may cause some degree of embarrassment for the bureaucracy does not mean that the question should be off limits to congressional oversight.

I look forward to a cooperative dialogue with all of our witnesses today and am now happy to yield to my Ranking Member, the gentleman from Minnesota, Mr. Peterson, for his opening statement.

[The prepared statement of Chairman Lucas follows:]

**Statement of The Honorable Frank D. Lucas, Chairman,
Committee on Agriculture**

Thank you Chairman Hastings and Ranking Member Markey for working with Ranking Member Peterson and me on this important topic.

Though joint hearings represent a logistical challenge, the interactions and contradictions between the laws and programs under our various jurisdictions suggest that effective oversight will require more cooperation between committees in the future.

Recently, the Agriculture Committee engaged in a joint oversight process with the Committee on Transportation and Infrastructure that led to the successful passage of bipartisan legislation in the House which would eliminate a costly, burdensome and duplicative regulatory process for pesticides. While we wait for movement of the bill in the Senate, we now turn our attention to another costly and burdensome regulatory process that is both duplicative and dysfunctional.

In the process of reviewing individual pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the EPA assesses more than 120 scientific studies evaluating the products' safety and effectiveness. Pesticides distributed and sold in the United States must be evaluated and **registered** by the EPA based on scientific data showing that they will not cause unreasonable risks to human health, workers, or the environment when used as directed on the EPA approved product label.

As defined in the statute, the term "unreasonable adverse effects on the environment" includes any unreasonable risk to man or the environment, taking into ac-

count the economic, social, and environmental costs and benefits of the use of any pesticide.

Once a pesticide is registered, the federal review process does not end. In fact, the law mandates a process of registration review. The registration review program makes sure that, as the ability to assess risk evolves and as policies and practices change, all registered pesticides continue to meet the statutory standard of no unreasonable adverse effects.

Despite having a rigorous, science-based process in place to register and periodically review pesticides, provisions of the Endangered Species Act (ESA) require that the EPA "consult" with the Fish and Wildlife Service or the National Marine Fisheries Service (collectively, the Services), whenever there is any possibility, however remote, that the use of the pesticide could adversely affect a threatened or endangered species.

Though no credible evidence has been presented documenting a causal link between the registration of a pesticide and the decline of any listed species populations or rates of recovery, this lack of scientific evidence has done nothing to impede environmental extremists. Groups like the Center for Biological Diversity have been clogging our court rooms with frivolous lawsuits that have cost taxpayers tens of millions of dollars in litigation costs and have further congested an already dysfunctional federal bureaucracy.

Consultation is a process meant to facilitate understanding among and between agencies. Unfortunately, the consultation process under the ESA is heavily biased towards the European model of a Precautionary Principal. Should any expert agency ignore the opinion of one of the Services, they risk civil and criminal penalties in the event of the loss of a single plant or animal from a listed species.

Counter to the intent of consultation, the Services have administered a process where they ignore scientific evidence presented by the expert agencies. They refuse to consider or even accept public comment, and in some cases they have simply ignored requests by EPA for a consultation.

Recently, the Services have acknowledged that the scientific models they have used in developing their biological opinions for pesticides are fatally flawed. Thankfully, a request has been made by USDA, EPA, Interior and Commerce to have the National Academy of Sciences conduct a review of the models used by the Services. I am hopeful—and would expect confirmation from each of the Federal agencies here today—that the scope of the work that is contracted will be a comprehensive review of not only the scientific models used by the Services, but also of the models used to analyze the economic impacts of any suggested alternatives.

Of further concern is the fact that while waiting for the completion of this scientific peer review, EPA is still being asked to implement the recently finalized biological opinions which the agency has repeatedly and publicly challenged. Given the admission of fundamental flaws in the Services models, I would suggest that the Services consider seeking re-initiation of consultation when scientific models have been developed, validated, and agreed upon.

One final note. . . Prior to this hearing, Chairman Hastings and I received a letter from the four departments suggesting that due to concerns over pending litigation, they would be unable to answer many of the questions the Committees would be raising. I would like to make clear that while I recognize certain questions regarding pending litigation are sensitive, Congressional oversight is equally as important and I hope the panelists will be as responsive as possible. I will tell you now that just because a question may be difficult, or may cause some degree of embarrassment for the bureaucracy, it does not mean that the question should be off limits to Congressional oversight.

I look forward to a cooperative dialogue with all of our witnesses today and am now happy to yield to my Ranking Member, Representative Peterson for his opening statement.

STATEMENT OF HON. COLLIN C. PETERSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MINNESOTA

Mr. PETERSON. Thank you, Mr. Chairman and good morning everybody. Thank you and Mr. Hastings for holding this hearing.

Today we are reviewing pesticide registration consultations under the Endangered Species Act as they are carried out between the EPA and either of the Services, as Mr. Lucas characterized them. Unfortunately, several opinions coming from the National

Marine Fisheries Service failed to respond to and incorporate concerns voiced by EPA.

It is important for these agencies to work collaboratively in reaching conclusions on complex issues such as the one we are dealing with this morning. And while it is not unusual to see different agencies reaching different opinions, it is unusual for reasonable people not to understand how those conclusions are reached.

When the agencies fail to be transparent and fail to base their conclusions on the best available science, the decision is often left in the hands of the courts, leaving those outside of agriculture to make a ruling. This should not be the case. We need someone to step up and resolve these issues and perhaps this is something that Congress should address.

This hearing comes as we are beginning to see the potential effects of these differences of opinion can have. The questionable environmental data used in assessing potential harm to endangered species has producers in the Pacific Northwest and California, facing a potential, unprecedented restriction on the use of pesticide products labeled and registered by the EPA and this restriction could conceivably affect the rest of the country.

Many in agriculture have expressed concern about the lack of transparency, lack of state and stakeholder participation, use of less than best available science and the lack of an economic impact assessment on the restrictions contemplated by the National Marine Fisheries Service. I share those concerns, so I am looking forward to hearing from today's witnesses on these issues.

And again, I want to thank the Chairs for holding today's hearing.

[The prepared statement of Mr. Peterson follows:]

**Statement of The Honorable Collin C. Peterson, Ranking Member,
Committee on Agriculture**

Good morning. Thank you Chairman Lucas and Chairman Hastings for holding today's hearing.

Today we are reviewing pesticide registration consultations under the Endangered Species Act as they are carried out between the Environmental Protection Agency and either the National Marine Fisheries Services or the Fish and Wildlife Service.

Unfortunately, several opinions coming from the National Marine Fisheries Service fail to respond to and incorporate concerns voiced by the EPA.

It's important for these agencies to work collaboratively in reaching conclusions on complex issues such as the one we are dealing with this morning. While it is not unusual to see different agencies reaching differing opinions, it is unusual for reasonable people not to understand how those conclusions are reached. When the agencies fail to be transparent and fail to base their conclusions on the best available science, the decision is often left in the hands of the courts, leaving those outside of agriculture to make a ruling. This should not be the case. We need someone to step up and resolve these issues. Perhaps this is something that Congress should address.

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Many in agriculture have expressed concern about the lack of transparency, a lack of state and stakeholder participation, use of less than best available science and the lack of an economic impact assessment on the restrictions contemplated by the National Marine Fisheries Service. I share those concerns.

I am looking forward to hearing from today's witnesses on these issues. Again, I thank the Chairs for holding today's hearing.

Mr. LUCAS. The gentleman yields back. The Chair now turns to the Chairman of the Committee on Natural Resources, Chairman Hastings, for his opening statement.

STATEMENT OF HON. DOC HASTINGS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WASHINGTON

The CHAIRMAN. Thank you very much, Mr. Chairman.

Earlier this year, President Obama signed Executive Order 12866, which seeks to reform Federal regulations to ensure that they, and I quote, “protect public health, welfare, safety, and our environment while promoting economic growth, innovation, competitiveness, and job creation.”

The Executive Order further notes regulations, and I quote again, “must be based on the best available science,” “must allow for public participation and an open exchange of ideas,” and “must promote predictability and reduce uncertainty.”

I couldn’t agree more with these goals. Regrettably, the Executive Order is completely disconnected from the Administration’s own actions arising out of its dual regulatory responsibility of Federal pest control registration and safety and the Endangered Species Act.

Farmers, forest managers, and other resource industries that provide water, food, fiber, and energy are caught in the middle of Federal bureaucratic dysfunction. This situation discourages economic growth and jobs, and encourages lawsuits.

For the past 20 years, the National Marine Fisheries Service and the U.S. Fish and Wildlife Service have received hundreds of millions of dollars annually to implement and enforce Federal regulatory activities involving ESA-listed species. Today’s oversight hearing will focus on ESA Section 7 consultations and more specifically NMFS and Fish and Wildlife Service biological opinions for Federally registered crop protection and other pest control products.

Over the past 20 years, NMFS has listed 28 populations of salmon as endangered in the Pacific Northwest and California. These salmon have thrived amidst one of the most productive agriculture areas in the nation. Washington State alone produces nearly \$10 billion annually in fruit, wheat, grain, potatoes and other exported commodities. NMFS’s own 2010 report to Congress touted stable or increasing trends for two-thirds of the listed salmon populations.

Washington experienced record runs with salmon fisheries opening up in some areas for the first time in years, yet NMFS concluded in its biological opinions, beginning in 2008, that all 28 populations of salmon would be jeopardized by continued use of pesticides long registered and labeled by the EPA. NMFS’s questionable requirements included nearly a quarter-mile buffer zone around water bodies that would affect as much as 60 percent of agriculture lands in Washington State alone.

Implementation of these measures, as written, would literally force farmers out of business, cripple the food production capacity in the Northwest, and potentially the rest of the nation. Ironically, the head of the EPA office with authority and responsibility for scientific review of hundreds of pesticides, certainly no lightweight in

environmental regulation, found over 14 significant flaws in NMFS's biological opinions.

State agriculture agencies have raised concerns that NMFS not only failed to utilize their available data information, but refused to allow any transparent process to receive, review, and revise draft opinions to ensure the best available science. Fish and Wildlife, the agency with jurisdiction over most of the endangered species, is not immune from concerns. Correspondence between EPA and Fish and Wildlife reveals a lack of cooperation between the two agencies on a process involving nearly four dozen incomplete pesticide consultations two years after they were originally submitted.

The Administration responded recently by sending a vaguely worded request for the National Academy of Sciences to review NMFS and EPA's confusing and conflicting regulations—perhaps the most candid acknowledgment of the agency's flawed science. Instead, unless they are stopped, the interim, uncertain policies will result in even more lawsuits that threaten economic growth.

A recent suit filed by the Center for Biological Diversity seeks to eliminate 380 pesticides used in 49 states. Americans expect and deserve better from their government. So I look forward to hearing from representatives of these Federal agencies, the State of Washington, and Northwest growers. I very much appreciate Chairman Lucas and the House Agriculture Committee joining us in this hearing to provide oversight on this very important topic.

And with that, I recognize the gentleman from Massachusetts for his opening statement.

[The prepared statement of Chairman Hastings follows:]

**Statement of The Honorable Doc Hastings, Chairman,
Committee on Natural Resources**

Earlier this year, President Obama signed Executive Order 12866, seeking to reform federal regulations to ensure that they “protect public health, welfare, safety, and our environment while promoting economic growth, innovation, competitiveness, and job creation.”

The executive order further notes regulations “must be based on the best available science,” “must allow for public participation and an open exchange of ideas,” and “must promote predictability and reduce uncertainty.”

I couldn't agree more with these goals. Regrettably, the executive order is completely disconnected from the Administration's own actions arising out of its dual regulatory responsibilities of federal pest control registration and safety and the Endangered Species Act.

Farmers, forest managers and other resource industries that provide food, water, fiber and energy are caught in the middle of federal bureaucratic dysfunction. This situation discourages economic growth and jobs, and encourages lawsuits.

For the past 20 years, the National Marine Fisheries Service and the U.S. Fish and Wildlife Service have received hundreds of millions of dollars annually to implement and enforce federal regulatory activity involving ESA-listed species.

Today's oversight hearing will focus on ESA section 7 consultations, and more specifically, NMFS and the FWS' biological opinions for federally-registered crop protection and other pest control products.

Over the past 20 years, NMFS has listed 28 populations of salmon as endangered in the Pacific Northwest and California. These salmon have thrived amidst one of the most productive agricultural areas of the nation. Washington produces nearly \$10 billion annually in fruit, wheat, grain, potatoes, and other exported commodities, which fuels thousands of jobs.

NMFS' own 2010 Report to Congress touted stable or increasing trends for two-thirds of the listed salmon populations. Washington experienced record runs, with salmon fisheries opening in some areas for the first time in years.

Yet, NMFS, concluded in biological opinions beginning in 2008 that all 28 populations of salmon would be jeopardized by continued use of pesticides long registered and labeled by the Environmental Protection Agency. NMFS' questionable requirements included nearly a quarter mile buffer around water bodies that would affect as much as 60 percent of agricultural lands in Washington State alone.

Implementation of these measures as written would literally force farmers out of business, devastate rural communities and cripple the food production capacity of the Northwest and potentially the rest of the nation.

Ironically, the head of the EPA office with authority and responsibility for scientific review of hundreds of pesticides—certainly no lightweight on environmental regulation—found over 14 significant flaws in NMFS' biological opinions.

State agriculture agencies have raised concerns that NMFS not only failed to utilize their available data and information, but refused to allow any transparent process to receive, review and revise draft opinions to ensure the best available science.

FWS, the agency with jurisdiction over the most endangered species, is not immune from concerns. Correspondence between EPA and FWS reveals a lack of cooperation between the two agencies on a process involving nearly four dozen incomplete pesticide consultations—*two years* after they initially were submitted to FWS for review.

The Administration responded recently by sending a vaguely-worded request for the National Academy of Sciences to review NMFS and EPA's confusing and conflicting regulations—perhaps the most candid acknowledgment of the agencies' flawed science.

Instead, unless they are stopped, the interim, uncertain policy will result in even more lawsuits and threats to economic growth and jobs nationwide. A recent suit filed by the Center for Biological Diversity seeks to eliminate 380 pesticides used in 49 states. Americans expect—and deserve—better from their government.

I look forward to hearing from representatives of the federal agencies, the State of Washington, and Northwest growers, and I appreciate Chairman Lucas and the House Agriculture Committee's joining in this hearing to provide needed oversight on this important topic.

STATEMENT OF HON. EDWARD J. MARKEY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MASSACHUSETTS

Mr. MARKEY. Thank you, Mr. Chairman and welcome Chairman Lucas and Ranking Member Peterson.

With the opening of the Pacific Coast salmon fishing season, I am looking forward to sitting down to my first king salmon steak dinner of the season. As we all know, the key to salmon is in the balance. Don't cook it too long or it will dry out. Don't oversalt the fish or you will lose the sweetness.

The same kind of balance must be struck when we regulate pesticides. We call it Iron Chef Washington edition and the special ingredient is Federal oversight. Just like salt, when properly used pesticides can help aid the production of agriculture crops. And just like salt, when used indiscriminately or in too large a quantity, it can render a meal or an entire fish population inedible.

As the regulatory chefs, we must serve up the right balance between producing food and protecting endangered species—fisheries, water supplies, and human health. We must ensure that the Federal Government works in harmony to ensure a safe, abundant food supply while producing our natural resources.

According to the United States Geological Survey, 90 percent of America's surface streams and rivers contain measurable amounts of multiple pesticides. High levels of pesticides in our waters harm our commercial fisheries and impair the recovery of endangered salmon throughout the West. Fully restoring salmon populations in the Northwest alone would add over \$5 billion a year to the regional economy and would revitalize the commercial and recreational fisheries in the region.

The human health impacts from pesticides exposure are also severely disconcerting. In addition to decades of laboratory animal studies that have linked many pesticides to various adverse health outcomes, just last week three independent, public health studies were released which found that mothers who are exposed to frequently used pesticides, including the ones being discussed today, give birth to children who have poorer memory and lower IQ scores than their peers by the time they have reached school age. We cannot afford to ignore these negative impacts.

While I understand that ongoing litigation makes it difficult for the Federal agencies present to respond to specific questions relating to these pending cases, I look forward to discussing more generally how the EPA's registration process for pesticides can incorporate the protective standards of the Endangered Species Act. We must ensure that the Federal agencies work together to provide the full level of environmental protection that our endangered species desperately need.

It is important to remember that the consultation process required under the Endangered Species Act is a vital part of every Federal agencies' obligation to preserve the existence of endangered species. Streamlining a regulatory process does not require a race to the bottom on environmental protections. We should not and do not need to operate at the lowest common denominator of protection when it comes to issues as important as health and human safety, water quality, and endangered species.

Instead, we must first ensure that the EPA, the National Marine Fisheries Service, and the Fish and Wildlife Service have the resources they need to complete their endangered species consultations in a timely manner. Second, we should support efforts to ensure that the best, most up-to-date scientific information is utilized by the agencies when consultations occur.

Finally, we should ensure that the consultation process is transparent to the public, allowing for full stakeholder participation. Because of the multiple environmental impacts, including pesticides, three years ago the West Coast salmon fishery experienced a closure that was unprecedented in magnitude and duration. This closure rippled up and down the coast, decimating livelihoods and communities that depend on this natural resource.

With that, I would like to thank the witnesses for being here today and I look forward to learning more about these issues. Thank you, Mr. Chairman.

[The prepared statement of Mr. Markey follows:]

**Statement of The Honorable Edward J. Markey, Ranking Member,
Committee on Natural Resources**

Thank you Chairman Hastings.

With the opening of the Pacific coast salmon fishing season, I am, looking forward to sitting down to my first king salmon steak dinner of the season.

As we all know, the key to salmon is in the balance. Don't cook it too long, or it will dry out. Don't oversalt the fish, or you'll lose the sweetness.

The same kind of balance must be struck when we regulate pesticides.

We'll call it Iron Chef: Washington Edition. And the special ingredient is federal oversight.

Just like salt, when properly used pesticides can help aide the production of agricultural crops.

And just like salt, when used indiscriminately, or in too large a quantity, it can render a meal, or an entire fish population, inedible.

As the regulatory chefs, we must serve up the right balance between producing food and protecting endangered species, fisheries, water supplies and human health.

We must ensure that the federal government works in harmony to ensure a safe, abundant food supply while protecting our natural resources.

According to the United States Geological Survey, ninety percent of America's surface streams and rivers contain measureable amounts of multiple pesticides. High levels of pesticides in our waters harm our commercial fisheries and impair the recovery of endangered salmon throughout the West. Fully restoring salmon populations in the Northwest alone would add over **five billion dollars** a year to the regional economy and would revitalize the commercial and recreational fisheries in the region.

The human health impacts from pesticide exposure are also severely disconcerting. In addition to decades of laboratory animal studies that have linked many pesticides to various adverse health outcomes, just last week, three independent public health studies were released, which found that mothers who are exposed to frequently used pesticides, including the ones being discussed today, gave birth to children who have poorer memory and lower I.Q. scores than their peers by the time they reached school age.

We cannot afford to ignore these negative impacts. While I understand that ongoing litigation makes it difficult for the federal agencies present today to respond to specific questions related to these pending cases, I look forward to discussing more generally how the EPA's registration process for pesticides can incorporate the protective standards of the Endangered Species Act. We must ensure that the federal agencies work together to provide the full level of environmental protection that our endangered species desperately need.

It is important to remember that the consultation process required under the Endangered Species Act is a vital part of every federal agency's obligation to preserve the existence of endangered species. Streamlining a regulatory process does not require a "race to the bottom" on environmental protections. We should not, and do not, need to operate at the lowest common denominator of protection when it comes to issues as important as human health, water quality, and endangered species.

Instead, we should first ensure that the EPA, the National Marine Fisheries Service, and the Fish and Wildlife Service have the resources they need to complete their endangered species consultations in a timely manner. Second, we should support efforts to ensure that the best, most up-to-date scientific information is utilized by the agencies when consultations occur. Finally, we should ensure that the consultation process is transparent to the public, allowing for full stakeholder participation.

Because of multiple environmental impacts, including pesticides, three years ago, the west coast salmon fishery experienced a closure that was unprecedented in magnitude and duration. This closure rippled up and down the coast decimating livelihoods and communities that depend on this natural resource.

With that, I would like to thank the witnesses for being here today and look forward to learning more about these issues.

The CHAIRMAN. I thank the gentleman from Massachusetts.

I note, and have been advised, not surprisingly, that there are a number of people who want to listen to this hearing. We do have an overflow hearing room down the hall, 1334. So anybody that is standing up and wants to have a little bit more comfortable area, you are certainly welcome to go down the hall to 1334, if that would work out for you.

At this time, I would like to recognize again the Chairman of the Agriculture Committee, Mr. Lucas, to introduce the first panel. Mr. Lucas.

Mr. LUCAS. Thank you, Chairman Hastings. We would like to welcome to this joint hearing today our first panel, Dr. Joseph Glauber, Chief Economist, United States Department of Agriculture; Dr. Steven Bradbury, Director, Office of Pesticide Programs, U.S. Environmental Protection Agency; Mr. Rowan Gould, Acting Director of the U.S. Fish and Wildlife Service; and Mr. Eric Schwaab, Assistant Administrator of the National Marine Fisheries Service, National Oceanic and Atmospheric Administration.

And I would yield to the Chairman.

The CHAIRMAN. I just want to point out that in front of you, you have the five-minute clock and your full statement will appear in the record, so that will be part of the record. But we do ask that, as you can see the interest here, that your oral statement be only five minutes if you can do that. We try to adhere to that. And in fact, we are trying to come up with some prize for any witnesses that do it in five minutes or less. So I just want to remind you that your full statement will appear in the record.

So I thank the gentleman for yielding to allow me to make that statement on how we run our Committee here, and I am sure your Committee does exactly the same thing. So I yield back to the gentleman from Oklahoma.

Mr. LUCAS. Thank you, Mr. Chairman. And the Chair now recognizes Dr. Glauber.

**STATEMENT OF DR. JOSEPH GLAUBER, CHIEF ECONOMIST,
U.S. DEPARTMENT OF AGRICULTURE**

Dr. GLAUBER. Thanks very much Chairman Hastings, Chairman Lucas, Ranking Members Markey and Peterson and members of the Committees. Thank you for the opportunity to testify on the effects of the Endangered Species Act consultation process for pesticides on agriculture.

In my written testimony, I focus on how this process affects agriculture stakeholders, including America's farmers, ranchers, forest owners, and registrants of crop protection tools and on some of the tools and capabilities USDA brings to improve the science behind pesticide registration and consultation stakeholder outreach and to assist farmers and ranchers.

As you are aware, pesticides are important inputs for American farmers. The introduction of pesticides and fertilizers along with the development of improved seed varieties have contributed to much of the productivity gains that we have witnessed in agriculture over the last 60 years.

Pesticides have enabled crop producers to manage insects, diseases in weeds, to prevent crop yield or quality losses while reducing labor and tillage cost for pest control. Over 900,000 farmers reported using pesticides in 2007. And USDA's economic research service forecasted farm pesticide expenditures this year will approach \$12 billion. Almost 77 percent of these farms reported using chemicals to control weeds, grass, or brush on more than 226 million acres in 2007 and about 40 percent of farms reporting pesticide use applied in insecticides on more than 90 million acres. About 10 percent of farms using pesticides for controlling diseases in crops and orchards are on more than 12 million acres.

The USDA also values mosquito-control chemicals as these insecticides are important for the protection of livestock as well as rural populations. USDA's veterinary services must have such insecticides available for quarantine use in the event of a large-scale outbreak such as Rift Valley Fever.

Last, pesticide use is important for international trade. The mere presence of quarantine pest in agricultural commodities can disrupt exports and international trade. The international community has long recognized the potential poor effects resulting from certain

pests, diseases and weeds by prohibiting the importation of quarantine pests.

The U.S. is able to export many agriculture products because pesticides are used to eradicate pests like medflies. Systems approaches in conjunction with chemical pest control are used by the U.S. and its trading partners. For example, exports of apples to Taiwan rely upon a systems approach that includes use of chemical controls for codling moths.

In my testimony, I give extensive coverage to an analysis that we were asked to prepare back in 2003, which was associated to look at the potential impacts to agriculture to the proposed no-spray buffers requested as injunctive relief in the Washington toxic case.

In the analysis, we analyze the effects of no-spray buffers affecting 54 pesticide active ingredients. These active ingredients were subject to an injunctive order imposing the 20-yard no-spray buffer for ground spraying around salmon-bearing waters and 100-yard no-spray buffer for aerial application.

The analysis assumed that land in the buffers would be retired and thus would provide no return. I might add this is a fairly consistent assumption with how it has been treated by the Services themselves in some of their analyses.

The short version is that the analysis predicted losses in gross revenue, ranging from \$37 million to \$583 million, depending upon the no-spray buffers were applied to perennial as well as intermittent water bodies and whether the pesticide applications were usually accomplished using aerial or ground spraying.

The written testimony goes through in much more detail here. I think the important thing to point out is we are looking at the BiOps for salmon is buffer strips would potentially extended up to 1,000 feet for some active ingredients in some affected areas. And depending on final determination, the impact could thus be larger than what we estimate. And again, a lot of this depends much on what mitigation measures are possible and how easy it is to substitute other acceptable pesticides or control systems.

Again, my written testimony covers a lot of potential mitigation effects offered by the USDA, such as the Conservation Reserve Program, buffer strips, and Environmental Quality Incentives Program (EQIP). Many of these, of course, Chairman Lucas you are well aware of and Congressman Peterson that we talk every day in the Ag Committee.

I would just conclude that our Office of Pest Management Policy at USDA works extensively with the Services, both in looking at measures and alternatives helping the Services and EPA with understanding the effects of pesticides on agriculture and the potential uses of alternatives and integrated pest management schemes.

With that, let me conclude and I will be happy to take any questions.

[The prepared statement of Dr. Glauber follows:]

**Statement of Joseph Glauber, Chief Economist,
U.S. Department of Agriculture**

Chairman Hastings and Chairman Lucas, Ranking Members Markey and Peterson, and members of the Committees, thank you for the opportunity to testify on the effects of the Endangered Species Act (ESA) consultation process for pesticides on agriculture. I will focus my remarks on how this process affects agricultural

stakeholders, including America's farmers, ranchers, forest owners, and registrants of crop protection tools, and on some of the tools and capabilities USDA brings to improve the science behind pesticide registration and consultation, stakeholder outreach, and to assist farmers and ranchers.

The U.S. Department of Agriculture's (USDA) interest in the biological opinions and resulting label changes from the ESA and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) consultation process is multi-fold. FIFRA sets out a number of responsibilities for the Secretary of Agriculture under the law in areas that include research and monitoring, identification of pests, and review of cancellation actions. USDA agencies, such as the Forest Service, which manages 193 million acres of National Forests and Grassland under sustainability and multiple use principles, use pesticides at times to deal with invasive species, noxious weeds, and to manage utility rights of way. In addition, USDA conducts pest control programs to suppress or eradicate pests or diseases on public and private lands to safeguard plant and animal health. USDA consults with the National Marine Fisheries Service (NMFS) or the United States Fish and Wildlife Services (FWS) to ensure our federal actions are properly protective of endangered species and their habitats. Examples include consultation on large-scale control programs such as grasshopper suppression (Animal and Plant Health Inspection Service) in the western states and insecticide treatment of seed orchards (Forest Service).

USDA's Office of Pest Management Policy (OPMP) provides USDA input to the Environmental Protection Agency (EPA) actions on pesticides and risk mitigation plans, including information for EPA on agricultural use of pesticides during registration review; coordinates the collection of information for EPA on pest management strategies employed by growers, including the growers' need for certain pesticide products during registration review; and provides reviews and estimated effects on agriculture of various EPA policies and pesticide registration notices (drift reduction notice, worker protection standards, fumigant buffers). OPMP coordinates the development and implementation of integrated pest management strategies and other economically and environmentally sound pest management tools and practices.

Private land use and agricultural production often involves use of pesticides. Thus, USDA has a vital interest in sound regulation of pesticide use that ensures USDA can fulfill its mission of ensuring an abundant, affordable, and safe food supply and a healthy farm and rural economy while ensuring protection of the environment and threatened and endangered species.

Agricultural Use of Pesticides

The introduction of pesticides and fertilizers, along with the development of improved seed varieties, has contributed to much of the productivity gains that we have witnessed in US agriculture over the past 60 years. Pesticides have enabled crop producers to manage insects, diseases, and weeds and to prevent crop yield or quality losses while reducing labor and tillage costs for pest control (Fernandez-Cornejo et al. 2009).

While agricultural pesticide expenditures have grown dramatically over the past 60 years, applications as measured by pounds of active ingredient have fallen. The Economic Research Service forecasts that farm pesticide expenditures will top \$11.9 billion in 2011, a record high in nominal terms and the third highest level adjusting for inflation (figure 1). However, only 480 million pounds of pesticide active ingredients were used in 2007 in agricultural production in the United States (Fernandez-Cornejo and Jans 2009) down from 579 million pounds of active ingredients used in 1997 (table 1).

The growth in the use of herbicides like glyphosate has occurred in conjunction with adoption of no-till practices and bio-tech crops with herbicide resistant traits (Fernandez-Cornejo and Caswell 2006). No-till agriculture reduces energy use, sequesters carbon helping to control greenhouse gas emissions, and helps control erosion, with the technique using herbicides rather mechanical means to deal with weeds.

Pesticide use varies widely by location and by crop. Herbicide use by producers of spring-planted row crop like corn, soybeans, cotton and spring wheats is quite high—typically over 95 percent of the area is treated (table 2). Insecticides are widely used by cotton producers and many fruit and vegetable producers. Fruits and vegetable producers also tend to be large users of both insecticides and fungicides.

The 2007 Census of Agriculture data reports that over 900 thousand out of 2.2 million total farm operations used pesticides in 2007 (table 3). Almost 77 percent of these farms reported using chemicals to control weeds, grass or brush on more than 226 million acres in 2007. About 40 percent of farms reporting pesticide use applied insecticides on more than 90 million acres. About 10 percent of farms using

pesticides were controlling diseases in crops and orchards on more than 12 million acres.

USDA also values mosquito control chemicals as these insecticides are important for the protection of livestock as well as the rural population. USDA Veterinary Services must have such insecticides available for quarantine use in the event of a large scale outbreak, such as Rift Valley Fever. The Agricultural Research Service carries out extensive research in collaboration with DOD and the IR-4 Program and the OPMP has assisted the American Mosquito Control Association (American Mosquito Control) on the reregistration and registration review of mosquito control chemicals.

Lastly, pesticide use is important for international trade. The mere presence of a quarantine pest in an agricultural commodity can disrupt exports and international trade. The international community has long recognized the potential deleterious effects resulting from certain pests, diseases and weeds by prohibiting the importation of quarantine pests. The United States is able to export many agricultural products because pesticides are used to eradicate pests like medflies. Systems approaches in conjunction with chemical pest control are used by the United States and its trading partners. For example, exports of apples to Taiwan rely upon a systems approach that includes use of chemical controls for codling moths.

Economic Consequences Resulting from Biological Opinions

As a result of the 2002 order in *Washington Toxics Coalition v. EPA*, EPA initiated consultation on its authorization of 37 pesticide active ingredients and the effects on listed Pacific salmonids under NMFS' jurisdiction and associated designated critical habitats in the states of California, Idaho, Oregon, and Washington. Consequently, under these Biological Opinions (BiOps), the affected area encompasses some freshwater, estuarine, marsh, swamps, nearshore, and offshore marine surface waters of California, Oregon, and Washington. The action area also includes some freshwater surface waters in Idaho.

The NMFS BiOps for listed salmonids identify reasonable and prudent measures that if followed, afford farmers protection from the penalties associated with the prohibition on incidentally taking a listed species under the ESA. EPA would then enact these measures through pesticide labels and informing the public through Endangered Species Protection Program Bulletins. Three BiOps have been issued and a fourth is due to be issued by June 30, 2011 covering 18 of the 37 pesticides requiring consultation (on salmonids) as a result of the Washington Toxics case. A fourth BiOp covering 6 pesticides has been released. Pesticide product label changes recommended by the EPA in response one or more of the BiOps include the following elements, which potentially could have impacts on farmers:

- Ground and Aerial Application No-Use (or Pesticide Free) Buffers
- Maximum wind speed 10 mph for pesticide spraying
- Prohibit application within 48 hours of a predicted storm event likely to produce runoff or when soil is at field capacity
- Requirement to report all fish kills occurring within four days after application

In addition to the anticipated pesticide label changes, the EPA must monitor water quality in off-channel habitats for seven consecutive days, three times per year in numerous locations according to a monitoring plan to be specified by NMFS.

These no-application zones adjacent to aquatic features (channels, agricultural ditches, and streams, and any channels temporally connected to surface waters) vary in size depending on the pesticide but range from 25 to 1000 feet for the first six pesticides assessed. There are many variables that potentially could factor into any analysis of the impacts resulting from these buffers, including the crop under cultivation, the cost and efficacy of any alternative products available to control the target pest, impacts due to the expected market for the crop (domestic or export), increased application costs associated with irregular application patterns which avoid the buffer, substitute crops that could be grown using other pesticides, and substitute uses for the land, such as enrollment in a conservation program.

Total agricultural production in the affected counties in California, Idaho, Oregon and Washington totaled \$32.5 billion in 2007 (table 4). Significantly, over 90 percent of the crop value produced in Oregon and Washington was in counties affected by the actions. Individual crop production figures for each state are given in tables 5–8. In 2003, the Office of the Chief Economist prepared an analysis of the potential impact to agriculture of the proposed no-spray buffers requested as injunctive relief in the *Washington Toxics Coalition v EPA* case (U.S. Department of Agriculture 2003). In the analysis prepared for the *Washington Toxics* case, we analyzed the effects of no-spray buffers affecting 54 pesticide active ingredients. These active ingredients were subject to an injunction order imposing 20 yard no-spray buffers for

ground spraying around salmon bearing waters and 100 yard no-spray buffers for aerial application. Many of these active ingredients are critical to production of the high value fruit, berry, vegetable, and tree nut crops produced in Oregon and Washington.

The analysis assumed that land in buffers would be retired and thus would provide no return. This assumption is consistent with how others have examined the effects of no-spray buffers (e.g., National Oceanic and Atmospheric Administration (NOAA) 2005). The parcels affected by the buffers are generally small and irregularly shaped and may not warrant cultivation (eg., see figure 2). Livestock may not be a viable enterprise in the buffer areas in such a small scale and due to environmental concerns about animal impacts on water bodies. Some producers may be able to reduce losses by enrolling the buffer lands in the Conservation Reserve Program. Loss of export markets due to the presence of quarantine pests from untreated areas, such as codling moth, was also not examined.

The analysis predicted losses in gross revenue ranging between \$37 to \$583 million, depending upon whether the no-spray buffers were applied to perennial as well as intermittent water bodies and whether the pesticide application were usually accomplished using aerial or ground spraying. Within the Columbia River watershed, it was estimated that 85 percent of the economic impacts were concentrated in Washington and these are primarily in the orchard and vineyard crops. In Oregon, estimated losses were about the same between row crops and orchards. Some geographic regions would be disproportionately affected. The analysis concluded that regions specializing in apples, pears, stone fruits and vineyard would experience greater losses. Orchard crops would experience the greatest revenue losses and small grains the least. The analysis estimated sector-wide impacts and thus did not address impacts on individual farmers. Some individual growers would be disproportionately affected from the no-spray buffers, especially where their property is adjacent to meandering streams or ditches that transect the field.

The injunction imposed by the Court imposed 20 yard no-spray buffers for ground application and 100 yard buffers for aerial application until such time that consultation between the EPA and NMFS on a particular active ingredient had concluded. Excepted from this no-spray buffer order were USDA pesticide applications where the USDA agency had previously consulted with either NMFS or FWS and was issued a BiOp for that use.

Under the NMFS BiOps for salmonids, buffer strips would be potentially extended to up to 1,000 feet for some active ingredients and some affected areas. Depending on the final determination, the impact could thus potentially be larger than estimated under the *Washington Toxics* injunction order (Washington State Department of Agriculture 2010).

Mitigation Efforts

The Food, Conservation and Energy Act of 2008 (Public Law 110–246) offers several programs which may provide financial assistance to producers to help mitigate some potential losses. The Conservation Reserve Program (CRP) uses contracts with agricultural producers and landowners to retire highly erodible and environmentally sensitive cropland and pasture from production for 10–15 years. Enrolled land is planted with grasses, trees, and other cover, thereby reducing erosion and water pollution and providing other environmental benefits.

Under CRP, farmers and ranchers plant grasses and trees in crop fields and along streams or rivers. The plantings reduce soil and nutrients from washing into waterways, reduce soil erosion that may otherwise contribute to poor air and water quality, and provide valuable habitat for wildlife. Plant cover established on the acreage accepted into the CRP will reduce nutrient and sediment runoff in rivers and streams.

In addition, the states of Oregon and Washington have established Conservation Reserve Enhancement Programs (CREP), which provide additional incentives to producers to enroll targeted land to restore and improve salmon and steelhead habitat on private land. Practices addressing water quality issues include: forested riparian buffers; riparian hedgerows, grass filter strips, and wetland enhancement. Land enrolled in 10–15 year CREP contracts is removed from production and grazing. In return, landowners receive annual rental, incentive, maintenance, and cost share payments for establishing one of the CREP practices.

Table 9 shows the cumulative acres enrolled in the CRP (and CREP) targeting filter strips and riparian buffers. In the four state region, over 50 thousand CRP acres were in filter strips while almost 80 thousand acres were in riparian buffers. Enrollment has been limited due to the fact that CRP (and CREP) rental rates are low relative to opportunity costs for irrigated land. (For example, average rental rates for irrigated farmland in Yakima County, Washington in 2009 were reported

by NASS as \$148 per acre as compared to an average CRP rental rate of \$43 per acre and an average CREP rental rate of \$108 per acre as reported by the Farm Service Agency.) However, this could change as pesticide restrictions potentially limit cropping alternatives.

One of the objectives of the Environmental Quality Incentives Program (EQIP) is to promote agricultural production and environmental quality as compatible national goals and to optimize environmental benefits by assisting producers in complying with local, State, Tribal and Federal regulatory requirements. Through the EQIP program, producers could receive financial and technical assistance for the design and implementation of the buffer areas or filter strips. In some cases, producers may receive up to 75% of the cost of installing these vegetated areas. Socially disadvantaged producers could receive up to 90%. While not an annual payment, producers may be able to graze or hay these acres allowing for some income to be obtained.

Producers could also take advantage of the Conservation Stewardship Program (CSP). CSP is a voluntary conservation program that encourages producers to address resource concerns in a comprehensive manner by undertaking additional conservation activities and improving, maintaining and managing existing conservation activities. Existing activities, such as buffers, grassed waterways, conservation tillage and contoured farming already installed or in use, decrease soil erosion, improve soil quality and water quality, increase plant and animal diversity, and improve air quality. Additional activities, such as extending existing buffers, implementing an Integrated Pest Management system, or adding a cover crop enhance the benefits already flowing from the existing activities. CSP participants receive payments tied to estimated benefits associated with the existing and additional conservation activities. Generally, payment per legal entity cannot exceed \$40,000 yearly (\$200,000 over five years). For a joint venture or general partnership, payment cannot exceed \$80,000 yearly (\$400,000 over five years). Federally recognized Indian tribes and Alaskan Native corporations are exempt from payment and contract limits.

Summary

During the past 60 years, U.S. farmers have achieved increases in productivity, due, in part, to pesticides. Farmers will face increasing challenges due to FIFRA label changes resulting from the ESA consultations and subsequent BiOps.

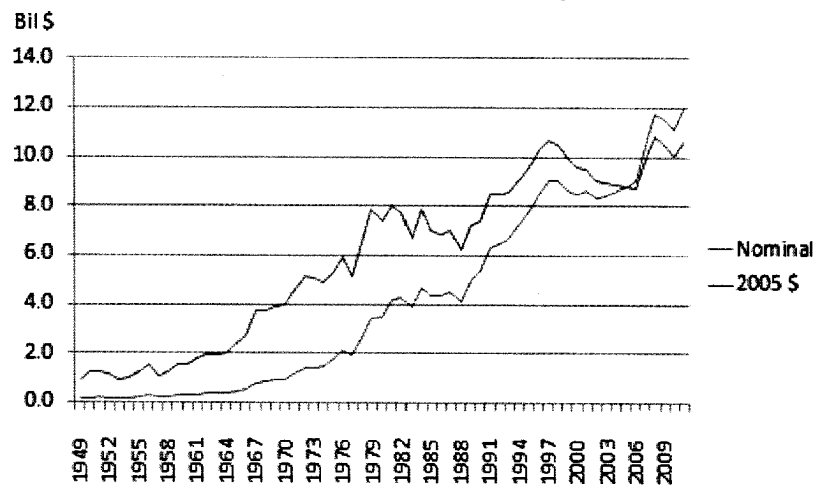
Historically, USDA agencies have worked closely with NMFS and FWS on ESA consultations for individual agency actions, some of which involve pesticide application, outside the context of the consultations on the registration of pesticides. The USDA's OPMP is responsible for working with the EPA Office of Pesticide Programs (OPP) on pesticide issues and regularly responds to requests for information on agricultural pesticide use and potential pest or disease impacts on agricultural production. In recent years, OPMP has engaged in an ongoing dialogue with OPP regarding data needed to support their ESA consultation packages for pesticide registrations.

That completes my statement. I would be happy to answer any questions.

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Figure 1
U.S. Farm Expenditures for Pesticides, 1949-2011



Source: USDA, Economic Research Service, 2011 values reflect forecasts

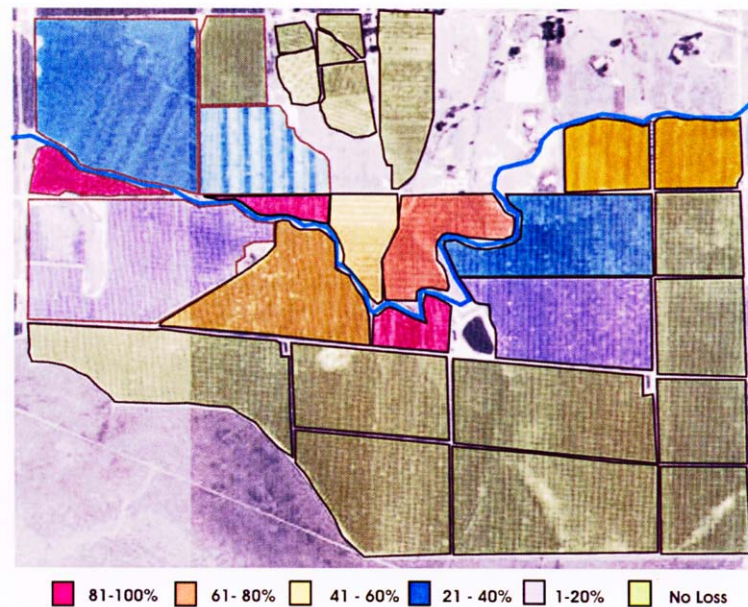


Figure 1. Estimated percentage losses of Individual Orchards near Elephant Mountain, WA due to 100 yard buffers (USDA, Office of the Chief Economist 2003)

Table 1--Quantity of pesticides applied, total and to selected crops, selected years

Type of pesticide and commodity	1964	1971	1982	1991	1997	2004
<i>Million pounds active ingredient</i>						
Total	215.0	364.4	572.4	477.5	579.3	494.5
Herbicides	48.2	175.7	430.3	335.2	362.6	311.0
Insecticides	123.3	127.7	82.7	52.8	60.2	40.7
Fungicides	22.2	29.3	25.2	29.4	48.5	29.8
Other	21.4	31.7	34.2	60.1	108.0	112.9
Corn	41.2	127.0	273.7	233.2	227.3	174.6
Cotton	95.3	111.9	49.5	50.3	68.4	56.7
Wheat	10.1	13.6	23.5	13.8	25.5	22.3
Soybeans	9.2	42.2	147.4	70.4	83.5	87.8
Potatoes	6.1	15.5	24.6	35.6	59.4	62.1
Other vegetables	20.8	20.7	21.7	40.3	73.3	65.1
Citrus fruit	8.1	14.1	16.5	13.7	15.0	7.2
Apples	19.9	12.7	10.0	9.1	10.6	8.5
Other deciduous fruit	4.4	6.6	5.5	11.1	16.4	10.3

Source: Economic Research Service, Agriculture Resource and Environmental Indicators, available at: <http://www.ers.usda.gov/publications/arei/eib16/Chapter4/4.3/>

Table 2--Pesticide Use in Row Crops, Vegetables and Fruits

	Proportion of Area Treated		
	Herbicide	Insecticide	Fungicide
Row Crops			
Corn ¹	97	20	--
Cotton ¹	97	84	5
Soybean ¹	97	22	12
Winter wheat ²	60	6	7
Spring wheat ²	97	5	36
Spring wheat, durum ²	100	4	23
Fruits and vegetables			
Apple ³	44	87	85
Oranges ³	71	83	62
Peaches ³	52	81	85
Grapes ³	49	50	71
Tomato, fresh ⁴	41	82	81
Lettuce, head ⁴	63	98	87

¹ Agricultural Chemical Usage - 2005 Quick Stats (NASS, 2011)

² Agricultural Chemical Usage - 2009 Wheat Survey (NASS, 2010)

³ Agricultural Chemical Usage - 2009 Fruit Survey (NASS, 2010)

⁴ Agricultural Chemical Usage - 2006 Vegetables Survey (NASS, 2007)

Table 3--Agricultural chemical use by farm

Chemical used to control:	Farms	Acres
Insects	354,357	90,947,822
Weeds, grass or brush	703,884	226,295,783
Nematodes	34,992	7,560,158
Diseases in crops or orchards	97,333	11,693,212
Growth, thin fruit, ripen or defoliate	44,638	12,125,799
Total	918,604	na

Source: NASS 2007 Census of Agriculture

Table 4—Total value of crops in affected counties in California, Oregon and Washington, 2007

State	Affected counties	Non-affected counties	Total
<i>Million dollars</i>			
California	\$13,572	\$9,234	\$22,807
Idaho	\$216	\$2,108	\$2,325
Oregon	\$2,689	\$236	\$2,926
Washington	\$4,228	\$253	\$4,481
Total	\$20,706	\$11,832	\$32,538

Source: NASS, Census of Agriculture, 2007

Table 5—California: Leading commodities for cash receipts, 2009

Rank	Commodity	Value of receipts	Percent of total receipts
		\$1,000	
	All commodities	34,840,647	100.0
	Livestock and products	7,814,006	22.4
	Crops	27,026,641	77.6
1	Dairy products	4,537,171	13.0
2	Greenhouse/nursery	3,792,295	10.9
3	Grapes	3,267,848	9.4
4	Almonds	2,293,500	6.6
5	Lettuce	1,725,799	5.0
6	Strawberries	1,725,232	5.0
7	Cattle and calves	1,676,373	4.8
8	Tomatoes	1,509,647	4.3
9	Rice	928,173	2.7
10	Hay	864,163	2.5
11	Walnuts	738,530	2.1
12	Broccoli	698,376	2.0
13	Oranges	655,820	1.9
14	Pistachios	592,850	1.7
15	Carrots	499,766	1.4
16	Lemons	364,248	1.0
17	Celery	349,918	1.0
18	Peaches	326,331	0.9
19	Chicken eggs	319,771	0.9
20	Cotton	303,823	0.9
21	Raspberries	297,315	0.9
22	Cauliflower	255,766	0.7
23	Plums and prunes	251,923	0.7
24	Wheat	230,752	0.7

Table 6—Idaho: Leading commodities by receipts, 2009

Rank	Commodity	Value of receipts \$1,000	Percent of total receipts
	All commodities	5,160,698	100.0
	Livestock and products	2,511,137	48.7
	Crops	2,649,561	51.3
1	Dairy products	1,430,514	27.7
2	Cattle and calves	961,618	18.6
3	Potatoes	784,980	15.2
4	Wheat	491,949	9.5
5	Hay	420,393	8.1
6	Sugar beets	234,822	4.6
7	Barley	231,529	4.5
8	Dry beans	53,530	1.0
9	Corn	48,754	0.9
10	Greenhouse/nursery	48,681	0.9
11	Onions	39,301	0.8
12	Mint	34,535	0.7
13	Hops	29,359	0.6
14	Lentils	16,900	0.3
15	Sheep and lambs	16,517	0.3
16	Dry peas	15,668	0.3
17	Apples	12,015	0.2
18	Hogs	10,656	0.2
19	Peaches	7,280	0.1
20	Honey	6,870	0.1
21	Cherries	2,975	0.1
22	Oats	2,928	0.1

Table 7—Oregon: Leading commodities for cash receipts, 2009

Rank	Commodity	Value of receipts \$1,000	Percent of total receipts
	All commodities	3,893,448	100.0
	Livestock and products	898,272	23.1
	Crops	2,995,176	76.9
1	Greenhouse/nursery	972,124	25.0
2	Cattle and calves	405,691	10.4
3	Dairy products	305,099	7.8
4	Hay	282,903	7.3
5	Wheat	259,676	6.7
6	Potatoes	149,296	3.8
7	Fescue	123,616	3.2
8	Ryegrass	122,850	3.2
9	Pears	107,346	2.8
10	Onions	103,982	2.7
11	Cherries	83,670	2.1
12	Hazelnuts (filberts)	79,430	2.0
13	Grapes	76,782	2.0
14	Chicken eggs	47,204	1.2
15	Hops	43,185	1.1
16	Mint	43,001	1.1
17	Blueberries	37,920	1.0
18	Corn, sweet	37,573	1.0
19	Blackberry group	32,944	0.8
20	Apples	26,488	0.7
21	Beans, snap	24,307	0.6
22	Corn	23,254	0.6
23	Bluegrass, Kentucky	19,900	0.5
24	Sugar beets	16,590	0.4

Table 8—Washington: Leading commodities by receipts, 2009

Rank	Commodity	Value of receipts	Percent of total receipts
		\$1,000	
	All commodities	6,592,649	100.0
	Livestock and products	1,640,135	24.9
	Crops	4,952,514	75.1
1	Apples	1,178,971	17.9
2	Dairy products	681,912	10.3
3	Potatoes	634,191	9.6
4	Cattle and calves	600,834	9.1
5	Wheat	588,840	8.9
6	Greenhouse/nursery	343,218	5.2
7	Hay	295,404	4.5
8	Hops	263,831	4.0
9	Cherries	223,785	3.4
10	Grapes	210,084	3.2
11	Corn, sweet	173,447	2.6
12	Pears	163,338	2.5
13	Chicken eggs	106,499	1.6
14	Onions	103,169	1.6
15	Corn	77,899	1.2
16	Mint	71,012	1.1
17	Raspberries	57,154	0.9
18	Dry peas	37,393	0.6
19	Bluegrass, Kentucky	32,500	0.5
20	Dry beans	32,160	0.5
21	Blueberries	30,525	0.5
22	Alfalfa	28,000	0.4

Table 9—Selected Conservation Practices Installed on CRP, 2011 (acres)

State	Filter Strips	Riparian Buffers
California	0	12,487
Idaho	1,137	6,927
Oregon	2,423	36,233
Washington	47,507	23,399
4 state total	51,067	79,046
US total	1,013,963	880,263

Source: USDA, Farm Service Agency, March 2011

Response to questions submitted for the record by the U.S. Department of Commerce, U.S. Department of Agriculture, U.S. Department of the Interior, and U.S. Environmental Protection Agency

Hastings/Lucas 1. (NMFS/FWS): Prior to finalizing any of the biological opinions, what input did your agencies receive from state agriculture departments and/or other non-federal experts in developing your conclusions? Did NMFS summarize comments submitted by applicants, States and other stakeholders, including how key points raised were either incorporated or set aside in the biological opinions issued? If so, please provide the Committees with the summaries of comments received and how they were considered. If not, please provide the Committees with relevant documentation supporting the claim that all data and information received was considered.

Answer: During the comment period for each NMFS biological opinion, input from state agencies and/or other non-federal experts was often posted to the docket EPA established for the salmonid consultations. For the fourth biological opinion, NMFS also received letters, and/or participated in meetings with state agencies or non-federal experts. NMFS considered all information received on its biological opinions, including information from state agencies, and made modifications to the opinions as appropriate. Unlike a federal rulemaking, there is no formal response to comments requirement for consultations conducted under Section 7 of the Endangered Species Act (ESA). Comments received are included in our administrative record. In the fourth biological opinion, NMFS is providing an explanation of modifications in the final opinion based on a specific comment or group of comments received. The Fish and Wildlife Service has not developed any recent biological opinions that would be relevant to this question.

Hastings/Lucas 2 (NMFS): On August 19, 2011, EPA requested that NMFS undertake three critical steps relative to population model which the Agency described as the “cornerstone of the jeopardy/no-jeopardy determinations.” Specifically, EPA requested that:

- 1) The population model undergo a rigorous sensitivity analysis that identifies inputs that “drive” the model and those that have less significance;
- 2) NMFS more fully define the model assumptions and clarify the rationale by which these assumptions were chosen;
- 3) NMFS publically release the model and its code.

Has NMFS cooperated with these three requests? If so, please provide the Committees with relevant documentation. If not, when does NMFS intend to respond to these requests?

Answer: The population model used in the first three opinions is described in an appendix to each opinion. Following issuance of the first biological opinion, the model was published in Ecological Applications. (Baldwin, D.B., J.A. Spromberg, T.K. Collier, and N.L. Scholz. 2009. A fish of many scales: extrapolating sublethal pesticide exposures to the productivity of wild salmon populations. Ecological Applications. 19(8): 2004–2015). Assumptions associated with the model are described either in the appendix describing the model or in the text of the opinion where the model is discussed. Justifications for those assumptions are also included in the text. Although the model could be recreated in a spreadsheet program from the information provided in the appendix, at EPA’s request NMFS provided them with the code for the version used in the analysis, which is implemented in a commercially available program called MatLab. NMFS has also provided updated versions of the model to EPA following subsequent opinions, reflecting modifications that have resulted from EPA’s suggestions. Later versions have been modified to address some of EPA’s concerns regarding the portion of the population exposed. Scientists at NMFS Northwest Fisheries Science Center (NWFSC) continue to refine the population model, which has been presented and discussed in several national and international fora. NMFS and EPA expect continued refinements to occur as this work continues, including those relating to sensitivity testing of the models.

Hastings/Lucas 3. (NMFS): Do you consider NOAA Fisheries’ current process of developing Biological Opinions with significant impact adequate to allow for broad public participation and solicitation of, and response to comments before biological opinions are finalized?

Answer: NMFS provides draft biological opinions on pesticides registrations to EPA for comment. EPA makes those drafts publicly available and solicits public comment. NMFS considers all comments EPA receives on the draft biological opinion before finalizing the opinion. In addition, NMFS seeks to maintain ongoing com-

munications with the applicants throughout the consultation. NMFS has sponsored several public meetings to explain to stakeholders the consultation process and the analysis in its biological opinion, and it looks forward to continuing to explore opportunities for expanded engagements within the constraints of existing budgets and court ordered schedules. Finally, NMFS has participated in a grower-sponsored workshop to discuss its analytical process and agricultural information the grower community may be able to provide.

Hastings/Lucas 4. (NMFS/FWS): Do NMFS and the FWS have separate processes and different science standards to evaluating impacts to endangered species?

Answer: NMFS and FWS have similar general approaches to conducting evaluations of effects on listed species through a shared approach to the consultation processes under the ESA, its implementing regulations and their ESA Consultation Handbook. While the general standards and approaches are similar, the specific methodologies used in each specific consultation are determined by the technical and scientific aspects of the affected species and their habitats, which of course vary widely.

Hastings/Lucas 5. (EPA): Since the EPA has submitted approximately 170 consultation packages to the Services over the last several years, but there has been little effort made by the Services to prepare biological opinions, it seems reasonable to assume that the Services do not consider pesticides to be a significant threat to listed species. Given there is little or no evidence that pesticides are a significant threat to listed species, combined with the fact that over the last two decades pesticide use has declined and older pesticides have been replaced by lower risk products, does EPA believe that the FIFRA risk assessment and regulatory process sufficient to ensure continued protection of listed species?

Answer: EPA's risk assessment methodology provides a reliable basis for evaluating whether use of a pesticide active ingredient has the potential to affect adversely the growth, survival or reproductive capacity of an individual organism. EPA also considers toxicity data on pesticide formulations, and, when such data indicate a potential for enhanced toxicity, EPA performs a risk assessment for the product. These assessments do not, however, predict how effects on individual organisms could affect the overall population in a local area. This issue is one of several that EPA, the Services, and USDA have asked the National Academy of Sciences (NAS) to address. On the whole, regulatory measures for reducing the risks to non-target wildlife generally will help to protect listed species. But, because of the uncertainties inherent in assessing population level effects on listed species, the expertise and views of the Services are key in making such judgments.

Hastings/Lucas 6. (NMFS/FWS): Under the Counterpart Regulations issued by the Services in 2005 there is a provision that allows EPA to develop its own Biological Opinions for review by the Services. Given the Services' inability to prepare Biological Opinions for over 170 consultations submitted by EPA over the last several years and given that EPA is planning to use the registration review program to become compliant with ESA, which could require up to 70 consultations per year for the next decade, if EPA decides to prepare its own Biological Opinions do I have your commitment to provide EPA the biological information they need on listed species and their habitat and a commitment to review these opinions according in an expedited manner?

Answer: NMFS and FWS are working with EPA and USDA to engage the assistance of the NAS in addressing key issues of science. Once we have heard from the NAS, we are committed to working with EPA to develop and implement an effective process for completing consultations on registration review decisions.

Hastings/Lucas 7. (NMFS/FWS): Do the Services commit to complying with counterpart regulations with respect to accepting EPA's ESA pesticides submission?

Answer: NMFS and FWS are working with EPA and USDA to engage the assistance of the NAS in addressing key issues of science. Once we have heard from the NAS, we are committed to working with EPA to develop and implement an effective process for completing consultations on registration review decisions.

Hastings/Lucas 8. (EPA): I understand EPA's pesticide program is trying to develop consultation packages that would contain enough information to support drafting of a Biological Opinion. To do that they need ready access to information on the species they are trying to protect. Have the Services provided EPA with current, accurate location maps of adequate resolution for each listed species in GIS format?

Answer: NMFS and FWS have and will continue to seek to provide EPA with up to date information on the status of the species and their habitats, including available mapping information on species location—budgets and schedules permitting. More specifically, NMFS has provided EPA with links to the GIS shapefiles for designated critical habitat of listed salmonids, but has not provided specific GIS information on the locations of “off-channel habitat”. EPA and NMFS continue to explore opportunities to address refinements in these mapping data to increase their accuracy and utility.

Hastings/Lucas 9. (EPA): Have the Services provided EPA access to a centralized, organized database containing biological information for each listed species for EPA and other federal action agencies to use?

Answer: The FWS is developing a system called IPAC, which will ultimately provide both location and biological information for listed species at some point in the future. NMFS does not have a centralized database containing biological information for each listed species; most of the biological information on listed species known to NMFS is posted on its website.

Hastings/Lucas 10 (NMFS): How does the Service define economic feasibility in terms of development of a Reasonable and Prudent Alternative (RPA)? With regard to the three biological opinions completed, please provide all data, assumptions and a complete description of the methods used to determine economic impact of your proposed RPAs.

Answer: Reasonable and prudent alternatives (RPAs) must be consistent with the intended purpose of the Federal action (in this case registration and use of pesticides), and they must be economically and technologically feasible. The Services give deference to, and rely on, the expertise of the Federal action agency to determine whether a particular alternative is economically and technologically feasible for it to implement. A traditional cost analysis (or cost/benefit analysis) may be conducted by the expert Federal action agency as part of their determination of economic feasibility, but such an analysis is not required by the ESA to be separately conducted by the Services as part of a Section 7 consultation. The Services do not as a general practice undertake formal, quantitative assessments of economic and technical feasibility.

Hastings/Lucas 11 (NMFS): Page 4–43 of the Endangered Species Consultation Handbook states, “When a reasonable and prudent alternative consists of multiple activities, it is imperative that the opinion contain a thorough explanation of how each component of the alternative is essential to avoid jeopardy and/or adverse modification.” For each of the three salmonid biological opinions completed, please provide the Committees with the sections in the biological opinions where the “thorough explanation of how each component of the alternative is essential to avoid jeopardy” can be found.

Answer: The RPA section of each of the three completed biological opinions contains a discussion of the elements of each of the Reasonable and Prudent Alternatives. Please see <http://www.nmfs.noaa.gov/pr/consultation/pesticides.htm> for further information.

Hastings/Lucas 12. (NMFS): Page 4–43 of the Endangered Species Consultation Handbook states, “The action agency and the applicant (if any) should be given every opportunity to assist in developing the reasonable and prudent alternatives.” Please provide a detailed description (including meeting dates) of how applicants were provided opportunities to assist in the development of reasonable and prudent alternatives for each of the three salmonid biological opinions completed.

Answer: NMFS met with applicants, the pesticide companies holding registrations for the pesticides that were the subject of the Biological Opinion, for the first biological opinion following release of the draft biological opinion. During that meeting in the summer of 2008, NMFS explained the consultation process, the findings in the biological opinion and requested the applicants' assistance in further developing the RPA. The applicants advised NMFS that they would not contribute to the development of the RPA because, as we understood at the time, they disagreed with

the premise of the RPA that the proposed action would jeopardize the species in the first place. NMFS has met with applicants for the second, third and fourth biological opinions at the very beginning of consultation to inform applicants of the consultation process and to request information pertinent to the consultation. NMFS then provided applicants a draft of the description of the proposed action for review and comment to ensure that it has accurately characterized the labeled uses of each active ingredient. NMFS also met with applicants again immediately following issuance of the draft biological opinion to EPA. The purpose of those meetings was to discuss the opinion and to seek applicants' input into the development of the RPA. Following issuance of the second draft biological opinion for the fourth consultation, NMFS met again with applicants to discuss changes made to the RPA based on comments received from applicants.

Hastings/Lucas 13. (NMFS): According to the joint regulations (51 Fed. Reg. 19926, 19963 (June 3, 1986)), formal consultation is supposed to conclude within 90 days after its initiation unless extended by mutual agreement. In the case of consultations involving "applicants"—which would include all of the pesticide consultations—the Services and EPA agency can agree to extend the consultation "provided that the Service submits to the applicant. . . a written statement setting forth: (1) The reasons why a longer period is required, (2) The information that is required to complete the consultation, and (3) The estimated date on which the consultation will be completed. A consultation involving an applicant cannot be extended for more than 60 days without the consent of the applicant." You testified that none of the consultations were completed in the requisite time. Were the applicants provided written notification as required by the regulations? If so, please provide copies of the written notifications and documentation of consent for extension of the deadline by the applicants. If not, why were your own regulations not followed?

Answer: Each of the biological opinions NMFS has issued on pesticides registrations have been issued pursuant to a timeline established through a Court ordered settlement. No applicants were identified by EPA for the first consultation until after the draft biological opinion was issued, so NMFS was unable to inform those applicants of the schedule for consultation. Following issuance of that draft, the applicants requested NMFS seek an extension of the deadline for issuing the final biological opinion from the Court. NMFS requested and received that extension. The applicants were kept informed of deadlines following the extensions. After the first biological opinion, EPA contacted prospective applicants on behalf of NMFS several months in advance of consultation to inform them of the schedule for the consultation and to seek their participation in the consultation process. Applicants for the second, third, and fourth consultations have all requested that NMFS seek extensions from the Court for each consultation. NMFS has sought and received those extensions. The applicants were kept informed of the extensions granted and the changes in dates for these consultations. If the Committee wishes documentation on these specific judicially approved extensions, NMFS is prepared to provide it.

Hastings/Lucas 14. (NMFS): The quality of science that underlies our regulations is vital to the credibility of our Federal agency's decisions and ultimately the effectiveness of regulations protecting human health and the environment. One important way to ensure decisions are based on defensible science is to have an open and transparent peer review process.

- Were any of the biological opinions involving salmonids subject to peer review prior to finalization? [Note: By peer review—as distinct from peer input—the Committees mean a documented critical review of the biological opinions, by qualified individuals (or organizations) who were independent of those who performed the work, and who are collectively equivalent in technical expertise (i.e., peers) to those who performed the original work.] If so, please provide the Committee supporting documentation of the peer review.

Answer: NMFS regularly seeks scientific reviews of its biological opinions which it believes is necessary and appropriate to satisfy the "best available scientific and commercial information" standards of the ESA. As the question proposes to define formal external peer review, in the instances of these four opinions, NMFS has not sought independent formal peer reviews. Rather, the effects section of each opinion, which includes the evaluation of toxicity data, fate data, other related information, and the conclusions based on those data were closely reviewed by toxicologists at NMFS Northwest Fisheries Science Center (NWFSC).

Hastings/Lucas 15. (NMFS): The Final Information Quality Peer Review Bulletin (the “Bulletin”) issued by the Office of Management and Budget (OMB) established government-wide guidance aimed at enhancing the quality and credibility of government science documents practice through the practice of peer review. The Bulletin establishes “that each agency shall conduct a peer review on all influential scientific information that the agency intends to disseminate.” Furthermore, the Bulletin states that if a scientific assessment “is novel, controversial, or precedent-setting or has significant interagency interest,” the information is considered “highly influential scientific assessment” and more rigorous peer review requirements apply. OMB broadened the initial definition of “highly influence scientific assessment” to include this “narrative test” because a strictly economic test “may be difficult to apply for many influential scientific assessments whose policy or economic impact is uncertain.” OMB concluded that for certain assessments, “the narrative criteria will prove to be more important.”

- On what basis did NMFS exempt the salmonid biological opinions from the requirements of the Bulletin?
- Why were these biological opinions not designated “highly influential scientific assessments” based on the narrative test in the definition?

Answer: NMFS relied on the narrative criteria in determining whether the consultations on re-registration of pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) constituted a ‘highly influential scientific assessment’ under the narrative criteria. Only the scientific information in a biological opinion is subject to peer review. The scientific information used in these consultations came from public sources and published literature. NMFS used population and acute toxicity models that represent accepted risk analyses and are extensions of existing peer-reviewed models, which extrapolate pesticide exposures to the viability of salmonid populations.

Hastings/Lucas 16 (EPA): The preamble to the Services’ joint regulations relating to consultations state, “In no way does the Service intend to use the consultation procedures of section 7 to establish substantive policy for Federal agencies.” Have the Services challenged EPA to take into account issues beyond what the Agency considered part of a pesticide registration as currently defined by EPA’s policies and regulations? If so, please provide the Committees with examples.

Answer: NOAA’s recent biological opinions concerning salmonids in the Pacific Northwest and California contain recommended RPAs to avoid jeopardy that, if adopted, would involve EPA changing some of its existing policies and procedures. For example, the RPAs indicate that EPA should undertake significant water monitoring programs, and that EPA should direct pesticide users to report incident information to EPA. For other consultations, FWS has asked EPA to collect additional data and information.

The Services have also asked EPA to change the ways it assesses the risks of pesticide exposure to listed species and their habitats. EPA has been working with the Services to address issues they have raised and to develop methodologies not currently in EPA’s suite of assessment tools. EPA has offered a variety of approaches currently outside EPA’s standard risk assessment methodologies, to address more fully this issue. EPA and the Services are continuing to discuss this issue, and other key issues. EPA and the Services are hopeful that the NAS review will provide useful guidance on these complex topics.

Hastings/Lucas 17. (EPA): For each lawsuit where a consultation schedule has been set, please provide the Committees with (a) a complete list of products identified in the suit, (b) a listing of species to be considered, (c) a listing of States affected, (d) the estimated “action area” in acres, (e) the date EPA’s biological assessment was completed, or is estimated to be completed, (f) where relevant, the date of the request to initiate formal consultation.

Answer: Please see attached PDF file (titled LITIGATION PESTICIDES AND SPECIES 6 1 11.pdf) which contains a summary of what species have been reviewed for each pesticide active ingredient subject to a litigation directed schedule, and information for each lawsuit as requested. Please note that the compounds identified in each law suit were active ingredients in pesticide products rather than pesticide products themselves. Also, EPA has not calculated the acres included in the action area for each assessment.

Hastings/Lucas 18. (EPA): Based on experience to date in developing biological assessments requiring formal consultation for a limited number of species, please estimate EPA monetary resources required to (a) complete a nationwide biological assessment for a typical pesticide under registration review prior to initiation of consultation, and (b) from initiation to completion of formal consultation.

Answer: Based on our experience to date, EPA estimates the costs of a nationwide assessment and endangered species effects determination for one pesticide active ingredient to be 2.3 FTE and \$30,000. For initiation of consultation to implementation of a biological opinion is estimated at 2 FTE of EPA resources with annual, foundational funding of \$300,000 for our "Bulletins Live!" application, independent of the number of biological opinions being implemented per year.

Hastings/Lucas 19. (NMFS): You testified that an interagency workgroup of senior policy leaders were formed to "craft a multi-faceted strategy to address the challenge." On what date was this group formed? When were U.S. Geological Survey (USGS) and the USDA Office of Pest Management Policy invited to join? Please provide the Committees with meeting dates, agendas, participants and outcomes/action items to date. What is the schedule for future meetings?

Answer: The interagency workgroup of senior policy leaders was initially established in December of 2009, and consisted of Dr. Jane Lubchenco (NOAA), Mr. Steve Owens (EPA), and Mr. Michael Bean (DOI). There is also an interagency group of SES-level managers for these agencies that began approximately the same time. An interagency group of technical staff from each of the agencies has been meeting to deal with technical issues since July 2009. Membership in the senior policy level group has shifted some over time, and Dr. Larry Robinson and Mr. William Stelle currently represent NOAA. The senior policy group was expanded to include USGS and USDA representatives in the fall of 2010. This group meets on a somewhat regular basis to discuss issues that arise related to these consultations. Most recently the group convened several times to develop a framework for the NAS evaluation of the coordination between ESA and FIFRA mandates and objectives.

Hastings/Lucas 20 (NMFS): Several Members asked if NMFS considered the specific economic costs to "farmers" and other users of reasonable and prudent alternatives that were included in the salmonid biological opinions. You responded repeatedly that "costs are factored in discussion with the action agency." Please provide documentation of the specific costs identified and/or economic analyses that were completed in support of the reasonable and prudent alternatives that NMFS included in each of the three salmonid biological opinions finalized.

Answer: Please refer to the answer to Question #10.

Hastings/Lucas 21. (NMFS/FWS/EPA): In December 2007, EPA and the Services met in Shepherdstown, WV in an attempt to work out differences among the agencies with respect to the consultation process. Please provide the Committees with meeting notes resulting from that meeting.

Answer: The participants in the December 2007 meeting at Shepherdstown, WV, prepared a Power Point presentation that summarized the understandings reached at the meeting. The presentation appears in the attached file (WV WORKSHOP UNDERSTANDINGS FINAL.pdf).

Hastings/Lucas 22. (NMFS): In late 2002/early 2003, NMFS drafted a document entitled, "Guidance for Conducting Literature Searches for Section 7 Consultations." Has NMFS finalized this guidance? If so, was the guidance subject to peer review or notice and comment? If not, what criteria does NMFS rely on to include or exclude data or information that appear in published literature? Please provide the Committee with documentation outlining criteria currently used?

Answer: NMFS has not finalized that guidance. NMFS and FWS issued a joint policy in 1994 on Information Standards in the ESA which addresses this topic. That policy requires Service biologists to evaluate all scientific and other information that will be used to prepare biological opinions and incidental take statements. It requires biologists:

- a. To gather and evaluate all scientific and other information that will be used to determine the species' status, develop and implement recovery plans, monitor delisted species and to prepare biological opinions and permits.

- b. To gather and impartially evaluate biological, ecological, and other information that disputes official positions, decisions, and actions proposed or taken by the Services during their implementation of the Act.
- c. To the extent consistent with sections 4, 7, and 10 of the ESA, and to the extent consistent with the use of the best scientific and commercial data available, use primary and original sources of information as the basis for recommendations to make a determination of whether a Federal action is likely to jeopardize a proposed, threatened, or endangered species or destroy or adversely modify critical habitat. These sources shall be retained as part of the administrative record supporting an action and shall be referenced in all official Federal Register notices and biological opinions prepared for an action.
- d. To collect, evaluate, and complete all reviews of biological, ecological, and other relevant information within the schedules established by the Act, appropriate regulations, and applicable policies.
- e. To conduct management-level review of documents developed and drafted by Service biologists to verify and assure the quality of the science used to establish official positions, decisions, and actions taken by the Services during their implementation of the Act.

Hastings/Lucas 23. (EPA): As of today, how many requests for consultation have been sent by EPA to one of the Services regarding pesticides, under court order or settlement, to which the Service has not substantively responded? As of today, how many additional pesticide product/species combinations is EPA under court order or settlement to send to one of the services? When do you expect EPA to send those to a Service?

Answer: As of May, 2011, EPA has submitted 147 consultation requests to either the FWS or NMFS, under court order or consistent with a schedule in a settlement agreement or stipulated injunction. These requests date from July 2002 to the present. Of these consultation requests, the NMFS has responded to 21 through issuance of final Biological Opinions. An additional two consultations were requests for informal consultation on which the NMFS non-concurred in EPA's determination that the pesticide was Not Likely to Adversely Affect the species being reviewed. Another 47 consultations were the subject of a letter from the FWS which it could not complete based on the information provided by EPA. If each of the above categories is considered to be a substantive response, there remain 77 consultation packages with FWS for which EPA has not received any substantive response. Of those, EPA is aware that the NMFS plans to address 13 through issuance of additional Biological Opinions between now and April 30, 2012.

Hastings/Lucas 24 (NMFS): In your letter to EPA on January 14, 2009, you said NMFS did not have the staff capability to respond to EPA with regard to registration review consultations within normal statutory timelines. EPA has scheduled 70 registration reviews a year for each of the next 7 years. How many more FTEs would be required for you to keep up with EPA's schedule, including a 90 day response time in each? What increase in your budget would be required?

Answer: NMFS estimates approximately 40 additional FTEs would be needed to consult within the 90-day statutory deadline and promptly complete the biological opinions (within 45 days thereafter). Approximately \$6 million per year would be needed to support these FTEs.

Hastings/Lucas 25. (NMFS): In a letter from Dr. Debra Edwards, Director of the Office of Pesticide Programs of the Environmental Protection Agency (EPA) dated April 10, 2009 that is addressed to James Lecky, NMFS Director of Protected Resources, EPA conveyed several serious concerns about its March 18, 2009 Draft Biological Opinion relative to potential effects of carbaryl, carbofurn or methomyl to Pacific salmon and steelhead species. Among those is the comment that the Draft "seems not to acknowledge that agricultural chemicals are secondary stressors and therefore are considered to be a minor factor in species survival relative to other factors." Please provide NMFS' explanation as to what NMFS considers to be primary stressors as opposed to secondary stressors to salmon. Please also identify what studies or scientific basis you have for this opinion.

Answer: Unlike EPA pesticide risk assessments, which typically consider the effects of a single active ingredient, biological opinions must consider the effects of the stressors of the proposed action in context with the other stressors which the listed organism may concurrently experience. There are a number of locations where the Services typically evaluate and describe the overall range of stressors which are ap-

plicable to specific species. Firstly, at the time of deciding to list a species as threatened or endangered under the ESA, the Services conduct extensive and rigorous review of the status of the species and the threats to their survival over time through public notice and public comment rulemaking. These listing documents are an excellent place to understand the “big picture” of the threats these species face. Secondly, these additional stressors are described and documented with brevity in the environmental baseline section of each biological opinion. The general status and population trends of species addressed in the opinion are also described in this baseline section of specific opinions. Thirdly, to the extent that the Services have completed draft or final recovery plans, which are done on a species by species basis either individually or with multiple species bundled together into a single geographic region, these recovery plans go into considerably greater detail on the types and severity of threats that such species confront

Hastings/Lucas 26. (NMFS/FWS): Do the Services (NMFS and FWS) have administrative discretion to re-open biological opinions to consider additional or more current science or data? Has this occurred for any NMFS or FWS biological opinion regarding the affects of agricultural chemicals on salmon in the past?

Answer: The implementing regulations provide four discrete “triggers” for reopening a completed consultation and one of those triggers is that new information reveals effects of the action that may affect listed species or critical habitat in a manner not previously considered (see 50 CFR 402.16(b)). EPA has not reinitiated, nor has NMFS requested that EPA reinitiate consultation on the biological opinions it has issued on national pesticides registrations. In 1989, the FWS completed a reinitiated consultation with EPA regarding selected portions of five previous biological opinions.

Hastings/Lucas 27. (NMFS): Page 11 of NMFS’ 2010 Report to Congress on the Pacific Coastal Salmon Recovery Fund indicates that two-thirds of the 28 ESA-listed salmon populations are categorized as either “stable” or “increasing” over the past 10 years. During the same past decade, various labeled pesticides were utilized by farmers, foresters, weed control districts, mosquito control districts, and others. How do you reconcile the increasing trends of 18 of the 28 populations of salmon with NMFS’ conclusion in these biological opinions that all 28 species would be jeopardized with the use of the same pesticides?

Answer: Salmon and steelhead stocks face a wide range of major stressors that have caused their decline over the last century, including extensive losses of habitat functions across a wide range of habitat stressors, including the adverse effects of past forestry, the filling and diking of riparian areas, the pollution of rivers, streams and estuaries, and the hardening of shorelines. Considerable progress has occurred in addressing a number of these topics over the last decade, and yet much work remains to achieve the health and productivity of these stocks which will lead to their delisting under the ESA.

The PCSRF Annual Report compiles the activities and accomplishments of the states and other parties in protecting or restoring at-risk salmon populations in Alaska, California, Oregon, Washington, and Idaho over the course of the applicable reporting year. The report also notes the general status of all of the listed salmon stocks across this same extensive geography.

In contrast, these consultations are prospective in nature, examining the future effects of a proposed action on the prospects of survival and recovery of these species. Specifically, these consultations examine the likely continued adverse effects of pesticide and herbicides uses on these stocks over time, and whether these uses might appreciably reduce the likelihood of their survival or recovery over time or adversely modify the critical habitat that has been designated. In short, the current status of a species as either stable, declining or improving does not address the question of the effects of a future action on those stocks, which is the focus of the consultations.

Hastings/Lucas 28. (NMFS): Does NMFS maintain data for all California stocks of salmon listed under ESA? The 2010 Report to Congress suggests that NMFS did not have sufficient data for northern California coastal coho, California Central Valley steelhead, California coastal chinook, northern California steelhead, central California coastal steelhead, south central California steelhead and southern California steelhead. If your agency cannot provide Congress the current status of these salmon populations, please describe what information NMFS' "jeopardy" conclusions are based on in NMFS' biological opinions for pesticides issued in 2008, 2009 and 2010. When will you have sufficient data to determine status of these stocks?

Answer: There is less population and trend data available for northern California coastal coho, California Central Valley steelhead, California coastal chinook, northern California steelhead, central California coastal steelhead, south central California steelhead and southern California steelhead than for some of the other species addressed in the pesticide opinions. This situation is discussed in the status of the species section in each biological opinion. Final determinations, including jeopardy and non-jeopardy decisions, are based on available data. Information considered included what was known about distribution of the species, life history, and population trends. NMFS reviews recovery plans every five years per statute, and this includes an update on status, if it has available information.

Hastings/Lucas 29. (NMFS/FWS): On January 26, 2004, both the NMFS Administrator and the FWS Director signed a letter to the EPA Office of Prevention, Pesticides and Toxic Substances confirming that both agencies had reviewed EPA's "Overview of EPA's Ecological Risk Assessment Process" and found that EPA's process appropriately assessed the effects of pesticides on listed species and critical habitat. Have your agencies, individually or collectively, changed their opinion of EPA's risk assessment process, and if so, how does it need to be modified to meet your agencies' risk assessment approval?

Answer: Many of the issues that were covered in the letter are among those that we have referred to the NAS and we believe the NAS's advice will be an important element in deciding whether any modifications to EPA's or the Services' risk assessment protocols are needed.

Hastings/Lucas 30. (EPA): In 2007 and 2008, EPA submitted 64 pesticide assessments for ESA formal consultation regarding the California red-legged frog to the FWS under the 2004 counterpart regulations. Did the FWS respond to EPA regarding these pesticide assessments within the timeframe required by law? Did they respond at all?

Answer: EPA received a letter from the FWS dated January 14, 2009, that addressed 47 consultations EPA initiated between March 2007 and October 2008. That letter expressed the FWS position that each of the 47 consultation packages was deficient and that additional information will be required for each request. The letter also refers EPA to a previous letter dated February 11, 2008, in which the FWS did not concur on EPA's determinations regarding potential effects of atrazine to the Alabama sturgeon and the dwarf wedgemussel based on the information available. Of the 47 consultations, all but one (the consultation regarding seven freshwater mussels) were initiated under the provision in the "counterpart regulations" at 50 CFR part 402.46, Optional Formal Consultation Procedures for FIFRA actions. The January 2009 FWS response to consultations initiated between March 2007 and October 2008 did not meet the timeframes or the substantive requirements established in 50 CFR part 402.46. EPA responded to the January 14, 2009, letter clarifying that under the Services' counterpart regulations, Service requests for additional information are addressed as part of the consultation process and that EPA and the Services, therefore, remain in consultation regarding these submissions.

EPA initiated informal consultation on atrazine for these and other species on August 31, 2006. After numerous discussions with the FWS regarding their comments, EPA amended its analyses and resubmitted the package for informal consultation on March 21, 2007. FWS did not concur with EPA's determination.

Hastings/Lucas 31. (FWS): Does the FWS follow its own Endangered Species Consultation Handbook posted on its website and adhere to the 90 day timeframe requirements for formal consultations?

Answer: Yes. FWS follows the timeframe whenever possible, given available resources.

Hastings/Lucas 32. (FWS): The FWS has listed over 60 species of beetles, flies and moths under the ESA, including the Delhi Sands flower-loving fly in California. The range for the listed Delhi Sands flower-loving fly is nearly the entire state of California. As part of FWS recovery plans for this species of fly, has the FWS evaluated the usage of pesticides or herbicides in all parts of the state of California? How would FWS' "reasonable and prudent alternatives" differ from NMFS' with regard to its jeopardy conclusions in the first three Pacific salmon biological opinions?

Answer: The FWS has not evaluated the usage of pesticides or herbicides in California for possible effects to the Delhi Sands flower-loving fly so it is not possible to know at this time whether any "reasonable and prudent alternatives" would be necessary or whether they would differ from those developed by NMFS in the first three Pacific salmon biological opinions.

Hastings/Lucas 33. (FWS): The Fish and Wildlife Service's public website includes a statement about the impact of invasive species on endangered species. To control invasive and aquatic nuisance species, does FWS utilize pesticides or chemicals that are labeled by EPA? Please provide the Committee with a comprehensive description of all national refuges and other federal land areas in which endangered species and invasive species coincide with your management responsibilities.

Answer: Yes, the FWS uses pesticides that are labeled by the EPA. When using these pesticides, the Service follows Department of the Interior and Service policies that require that we use EPA-registered pesticides in complete conformance with the EPA label. That is a legal requirement of FIFRA. The Service conveys this requirement in several training courses for our land managers related to integrated pest management, pesticides, and invasive species. In addition, the Service's Regional Integrated Pest Management Coordinators review the Pesticide Use Proposals that they review to ensure that the proposed uses comply with the labels.

With regard to your request for information on the presence of invasive species and endangered species, unfortunately, it is likely that there are invasive species present on most, if not all, of the National Wildlife Refuges at some or all times of the year. 356 National Wildlife Refuges provide the home for one or more threatened or endangered species. The degree to which invasive species are threatening the recovery of a listed species is not fully known in all cases. However, there are several examples where invasive species are of specific concern to the Service with respect to the conservation and recovery of listed species. A well-known example would be zebra mussels on the Upper Mississippi River National Wildlife and Fish Refuge where they pose a conservation concern for a number of listed native mollusks. Another high-profile emerging issue of conservation concern is the impacts of cheatgrass on sage grouse (a candidate species under the ESA). Lesser known examples include the chytrid fungus and Wyoming toad recovery on Mortenson Lake NWR and plague impacts (from the non-native bacteria) on black-footed ferrets at the Charles M. Russell National Wildlife Refuge in Montana. Our National Wildlife Refuges in both Florida and Hawaii have long-standing issues with invasive plants and animals that both directly and indirectly hamper the conservation of numerous listed species throughout those geographic regions both on and off national wildlife refuges. The James Campbell NWR in Hawaii is home to the Hawaiian stilt and Hawaiian coot, both of which are impacted by the presence of invasive rats, cats, and mongoose. The brown tree snake on the Island of Guam (Guam NWR) poses a major concern to the conservation of the Guam Micronesian kingfisher. Through the recent investments in the National Wildlife Refuge System's Inventory and Monitoring effort we have, not coincidentally, identified both threatened and endangered species and invasive species as priority initiatives. Significant resources are being committed to gather the needed information to better understand these relationships across the National Wildlife Refuge System.

Hastings/Lucas 34. (NMFS): Two studies over the past five years (in 2005 and 2010) have been conducted by Florida labs on the impacts of a critical mosquito control product, naled, in fresh and salt water environments. These studies revealed a much actual lower impact than if the NMFS modeling in recent biological opinions issued for impacts to Pacific salmon had been utilized. Has NMFS factored this data into its biological opinions, and if not, does it intend to for future modeling?

Answer: NMFS considered several field studies regarding ultra-low volume (ULV) aerial applications of mosquito adulticides. Two of these studies are described in the opinion (pages 562–565). One (Pierce et al 2005) evaluated naled use in the Florida Keys, and another (Bolton-Warburg et al 2007) considered naled use in

South Carolina. These studies were considered, along with modeling estimates and monitoring data, to arrive at conclusions regarding naled. NMFS is unaware of which 2010 study to which the Committee is referring.

Hastings/Lucas 35. (NMFS/FWS): The Center for Biological Diversity recently sued to restrict the use of naled in Florida, alleging it adversely impacts a number of ESA-listed species. Do the NMFS and FWS intend to apply 500 to 1000 foot buffers in Florida's lakes, streams and other water bodies similar to those advocated in the biological opinions for salmon in the Pacific Northwest and California? Will NMFS and FWS take into account all Florida state agriculture data and other studies, since it apparently did not in the recent salmon biological opinions?

Answer: The Services have not received a request for consultation from EPA on the use of naled in Florida. NMFS has consulted on EPA's registration of naled, but per a court settlement, NMFS only evaluated the effects of that registration on Pacific salmonids. Should NMFS or FWS consult with EPA on the registration of naled and its effects on listed species in Florida, the agencies will take into account any Florida state agriculture data, along with other studies and any other pertinent scientific information. Any discussion of potential buffers is premature at this time.

Hastings/Lucas 36. (NMFS): Does NMFS analyze the impact of actions in biological opinions on certain specific populations or broadly to include all 28 populations of salmon?

Answer: NMFS analyzes the impact of any listed species under our jurisdiction on a species-by-species basis, or, more precisely, on a species, subspecies, or "distinct population unit" of a species, depending upon what is listed at the time of the consultation. In analyzing the effects of a proposed action on the listed species, NMFS typically starts by looking at the effects on individuals, then on the populations which those individuals comprise, and then rolling up the population level effects to the level of listed species—in those instances where the listed "unit" is comprised of multiple populations, which is the case with most salmonid listings. In the pesticide consultations, the effects analysis is limited to listed salmonids in the Pacific as part of Court settlement agreements.

Hastings/Lucas 37. (NMFS/FWS): Do either NMFS or the FWS have experts on staff that are able to fully analyze the impacts of your proposed "reasonable and prudent alternatives" on agriculture production, forestry, weed control and mosquito districts? What is the level of consultation your experts have engaged with other experts on these issues in the Department of Agriculture and state departments of agriculture?

Answer: Please see the answer to #10, above. Typically NMFS works with Federal action agencies to determine the economic and technical feasibility of a potential RPA. USDA has not had a significant role in the FIFRA consultations between EPA and NMFS to date. However, NMFS, FWS, EPA, and USDA are part of the interagency workgroup examining issues related to these consultations. That interagency group should provide a valuable avenue to access USDA's expertise in this area.

Hastings/Lucas 38. (NMFS/FWS): How do the NMFS and FWS determine the action area that is to be evaluated for impacts to listed species in a section 7 consultation? Does NMFS or the FWS consider critical habitat designation maps as the area that would be covered for potential impacts to species, or is there some other measurement that your agency utilizes? Please explain.

Answer: The action area is defined by regulation as the area where direct and indirect effects of the action may occur. It is determined on a case-by-case basis for each proposed action. For the purposes of the salmonid pesticide consultations, the action area was limited to areas within the states of California, Idaho, Oregon, and Washington.

Hastings/Lucas 39. (NMFS/FWS): How do NMFS and the FWS define an affected "stream" for purposes of potential "reasonable and prudent alternatives" including buffers, for pesticide applications?

Answer: In its RPAs, NMFS did not specifically define "streams". As a general matter, NMFS defined salmonid habitats as freshwaters, estuarine habitats, and nearshore marine habitats including bays within the listed species' ranges, including migratory corridors. The freshwater habitats include intermittent streams and other habitats temporally connected to salmonid-bearing waters when those habitats contain water. For the first three biological opinions, freshwater habitats also in-

clude all known types of floodplain habitats as well as drainages, ditches, and other man-made conveyances to salmonid habitats that lack salmonid exclusion devices (e.g., fish screens).

Hastings/Lucas 40. (NMFS/FWS): For rivers and streams that include multiple listed fish species (i.e. salmon, smelt and bull trout), did FWS prepare a separate biological opinion or review NMFS' data or modeling to determine impacts to freshwater species and were the same mitigation measures used as were for salmon in these biological opinions?

Answer: The Fish and Wildlife Service has not completed consultations for the pesticides covered in the NMFS biological opinions, nor has the Service commented on NMFS' data or models.

Hastings/Lucas 41. (NMFS/FWS): How do NMFS and the FWS resolve differences in scientific data or modeling relating to Endangered Species Act consultations?

Answer: The ESA requires the Services and consulting agencies to use the best scientific and commercial data available in addressing a federal agency's duty to insure that its actions are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat. The Services gather all available data and assess the relevance of that data to addressing the substantive duties imposed by section 7(a)(2). In keeping with the statutory construct to "insure" that federal agency actions are not likely to jeopardize the continued existence of listed species or cause the destruction or adverse modification of critical habitat, the ESA has been interpreted to provide the benefit of the doubt to the species in situations where the available data are less than fully dispositive.

Hastings/Lucas 42. (NMFS/FWS): On January 18, 2011, the President issued Executive Order 13563, "Improving Regulation and Regulatory Review." Section 6 of that Order calls for a "Retrospective Analyses of Existing Rules." Have NMFS or FWS identified the joint rules governing consultations as one of the regulations that should be "modified or streamlined. . .so as to make the agency's regulatory program more effective or less burdensome?" Please explain each of your agencies' plans to implement this executive order relative to ESA.

Answer: The Services have specifically identified the establishment of a new regulatory definition of "destruction or adverse modification of critical habitat" in the joint rules governing interagency consultation as needed to improve the implementation of the ESA. This is one of many adjustments being considered by the Services in their joint ESA rulemaking currently underway.

Markey 1a. (EPA): During the hearing, I asked you whether the Office of Pesticide Programs (OPP) considered the impacts of inert ingredients on endangered species when it reviews an active pesticide ingredient under FIFRA. Could you please elaborate as to precisely what stage of the FIFRA inquiry this evaluation occurs and provide the FIFRA regulatory authority under which this occurs?

Answer: As part of its current ecological risk assessment process conducted under the authority of FIFRA section 3, EPA reviews data submitted by the pesticide manufacturer on the active ingredient and, when available, on formulated products. Generally, six acute toxicity tests are required for a product's registration. Additionally, EPA requires end-use product data for terrestrial plants on the following types of products: products applied directly to water (e.g., aquatic herbicides, mosquito larvicides); products whose expected concentration in water exceeds half the median lethal dose; and products formulated with an ingredient expected to enhance the toxicity of the active ingredient (a synergist). EPA also reviews available open literature to determine whether any data exists in the public realm related to a formulated product. Through analysis and comparison of toxicity data on the active ingredient and that for the formulated product, EPA determines whether the additional constituents in the formulated product (including inert ingredients) render it more toxic than the active ingredient alone. If the formulated product data shows the product is more toxic than the active ingredient alone, EPA will use the formulated product data quantitatively to assess the risk to non-target listed and non-listed species. The comparison of available data on the formulated product and with data on active ingredient alone allows EPA to determine whether there may be a potential for concern with a formulated product that is not accounted for by considering the potential effects of the active ingredient alone.

Markey 1b. (EPA): Would it be accurate to state that the OPP's inquiry on the impacts of inert ingredients occurs primarily after the FIFRA initial screening process, and during the Biological Evaluation that the OPP completes as a prerequisite to formal consultations with the NMFS or FWS under ESA? If not, why not? Please also provide an example to the Committee to help illustrate exactly when and how OPP evaluates the effect of inert ingredients on a specific listed species. Has EPA ever undertaken any such efforts (a) in the absence of an ongoing or anticipated ESA consultation or (b) in the absence of a court ordered mandate or settlement? If the answer is yes for either (a) or (b), please provide a complete description, including a timeline, related to each such instance.

Answer: OPP's analysis, as described above, to determine whether inert ingredients in pesticide products are adding to the potential risk from use of the product is currently an integral part of the ecological risk assessment conducted to support a registration or registration review decision for a pesticide. This analysis is conducted independently of whether there are concerns for federally listed threatened or endangered species.

Markey 2. (EPA): Determining the impacts of multiple environmental stressors is a highly complex endeavor. During the hearing, you were asked whether OPP considered how multiple pesticides may interact and threaten the existence of endangered species, and you responded that OPP considers this during the FIFRA registration process. Could you please explain and elaborate on the scientific difficulties involved in such an inquiry, given that in any given body of water, the mix of different pesticides and other chemical substances can change? When during both (a) the full FIFRA review and (b) ESA consultation does OPP consider such potential synergistic impacts on endangered species? Please also provide us with any guidance or other materials used by EPA to assess such impacts. Please also provide to the Committee a specific example of a pesticide registration to help illustrate exactly when and how this analytical inquiry occurs.

Answer: The same type of information that informs EPA's analysis of whether inert ingredients in a pesticide product increase the toxicity of the formulation, also informs EPA's consideration of the effect of multiple stressors. Through review of the same data, EPA can compare the toxicity of the active ingredient alone, to that of the products that contain multiple active ingredients to determine whether the combination of active ingredients results in toxicity not accounted for by the single active ingredient alone. Further consideration of multiple chemical stressors is complicated by factors on both the hazard and exposure sides of the risk equation. For example, the hazard expressed in toxicity studies of a multiple active ingredient compound may not be what occurs in the real world after a product is applied because the different constituents in the product may degrade at different rates. Variable degradation, along with differences in how the constituents move through the environment, makes it very difficult—if not impossible—to predict the level of each active ingredient a species may encounter simultaneously. How best to account for such variability in predicting toxicity and exposure to multiple chemical stressors in the environment is one of the questions the federal government is putting before the NAS for their consideration and advice.

Markey 3. (EPA): Does the Environmental Protection Agency (EPA) have the authority to use some of the fees it collects under the Pesticide Registration Improvement Act (PRIA) to refund the Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS) for increased consultation workloads in the future? If yes, please describe how such authority might be used in the future.

Answer: Fees assessed under PRIA have historically been based on the costs to EPA to review applications and to offset the expedited review schedules imposed on EPA by PRIA. Allowing reimbursement to "supporting programs" outside of EPA would require an increase in the fees assessed to achieve the same goals and may require additional legislative authority.

Markey 4a. (EPA): Do you believe that the Endangered Species Act (ESA) consultation process is entirely duplicative of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) registration process?

Answer: While the ecological risk assessments that EPA performs on pesticides are relevant to its duties under both FIFRA and the ESA, it is clear that the statutes themselves are not entirely duplicative. The challenge for the federal government is how to ensure that analyses performed by different segments of the agen-

cies are complementary. The Services can bring to bear important expertise on species' biology and geographic distribution that is not currently available to EPA. EPA and the Services are working to determine how to better align analyses of pesticide toxicity and fate characteristics in bringing this pesticide-specific information to bear on risk assessments for listed species.

Markey 4b. (EPA): Is there any data that the NMFS or FWS is required to consider during the ESA consultation process that is not required to be considered by the OPP during the registration and re-registration process? If yes, please describe. If no, has the OPP always considered such data in the past?

Answer: The ESA requires consideration of the best scientific and commercial data available. However, the ESA statute itself does not define "best available scientific data" nor does it prescribe specific standards governing data quality, given the very wide variety of plants, birds, animals and fish which are addressed by the program. Several decades of case-law speak to the issue of the general obligation to use best available science, but that same case-law gives little supplemental guidance on the boundaries of the concept. Through its regulations at 40 CFR part 158, EPA has established a standard suite of data required to support registration of a pesticide under FIFRA. However, EPA can and does consider additional relevant information in conducting its assessments under FIFRA.

Markey 5. (EPA): FIFRA guards against "unreasonable adverse effects" on the environment. But FIFRA defines this term to require the EPA to consider the overall economic benefits to agriculture as part of this unreasonableness inquiry. If the economic benefits of the registration of a pesticide slightly outweigh the estimated environmental damage would EPA be authorized under FIFRA to cancel the pesticide? For example, if registration creates \$10 million dollars in economic benefits, and simultaneously causes \$9 million in environmental damage (e.g. from higher water treatment costs) would EPA be authorized under FIFRA to cancel the pesticide? Under this scenario, would EPA be authorized under FIFRA to require a new condition of use (labeling, etc) for the pesticide? If the response is yes to either question, has EPA ever exercised such authority and if so, please describe the circumstances?

Answer: In addressing the hypothetical circumstances identified above, it is important first to understand that, as defined in FIFRA section 2(bb), the statutory standard of "unreasonable adverse effects to the environment" is not a risk-benefit standard with respect to human dietary risk. Rather, section 2(bb) requires that the human dietary risk from a pesticide meets the section 408(b) Federal Food Drug and Cosmetic Act safety standard. Under that "risk only" standard, which requires that EPA find a "reasonable certainty of no harm," EPA evaluates whether dietary exposures are "safe" in determining whether to permit or further regulate the use of a pesticide. Thus, in the hypothetical circumstance above, EPA would not balance the economic benefits of pesticide use against the risks from human exposure to drinking water and the costs of appropriate water treatment. For risks other than human dietary risk, FIFRA directs EPA to take into account the "economic, social, and environmental costs and benefits" of the use of pesticides. Under this standard, EPA balances the risks from the use of a pesticide against the benefits that accrue from the use of the pesticide in deciding whether to register or cancel a pesticide, or to seek lesser restrictions on a registered pesticide—such as labeling amendments (which are also accomplished through the cancellation process absent registrant agreement). If EPA concludes that the risk-benefit balance weighs in favor of further restrictions on the use of a pesticide, it will pursue regulatory action under FIFRA. If it comes to the contrary conclusion, it will not pursue regulatory action.

With respect to the assumptions underpinning the risk-benefit balancing suggested in the hypothetical question, EPA must note that FIFRA does not require the Agency to monetize risks and benefits in either registering a pesticide or taking cancellation action, and EPA cannot recite an instance where it has been possible to completely and accurately monetize all the risks and benefits associated with a particular action.

Markey 6. (EPA): In *Washington Toxics Coalition v. U.S. Dept. of Interior*, 457 F. Supp. 2d 1158, 1184 (D. Wash 2006), the Court stated that “EPA’s risk assessment process is not only less protective than Service determinations, there is overwhelming evidence on the record that without a Service check, EPA risk assessments (leading to pesticide registrations) would actually result in harm to listed species.” Do you believe that the Court’s conclusion that EPA-OPP’s risk assessment procedures is less protective was erroneous, and if so, why?

Answer: In the case cited above, the issue before the court was whether the ESA could be interpreted to permit action agencies, such as EPA, to satisfy their ESA consultation duties in certain lower risk situations (those involving actions that are “not likely to adversely affect” listed species) without first obtaining the written concurrence of the Services on every such action. The court’s commentary on EPA’s risk assessment process was therefore not intended to serve—and does not serve—as the authoritative ruling of the court. EPA agrees with the court’s overall observation that aspects of the Services’ assessments were more conservative in nature than the methodologies being used by EPA in the early 2000’s.

Markey 7. (EPA): In 1989, the Fish and Wildlife Service completed a Biological Opinion on the impacts of over 100 pesticide active ingredients, including all of the pesticides at issue in the West Coast Salmon Biological Opinions. This biological opinion examined the effect of these pesticides on more than 125 endangered species, and concluded that the use of nearly all of the pesticides being considered would cause jeopardy to at least one of these endangered species. The Fish and Wildlife Service recommended an array of Reasonable and Prudent Alternatives (RPAs), including buffer zones between 20 yards and ¼ mile in size to protect endangered species where jeopardy was found. EPA never implemented any of the recommendations by the Fish and Wildlife Service. Does EPA believe that its decision not to implement the RPAs recommended by FWS has resulted in further harm to these species? If not, why not?

Answer: EPA is currently involved in litigation in U.S. district court (CBD v. EPA, No. CV110293 (N.D.Cal.)) regarding, among other things, EPA’s response to the 1989 FWS biological opinion identified in this question. Responding to this question at this time could prejudice EPA’s defense of that litigation. Respectfully, therefore, EPA must decline to address this question at this time.

Markey 8. (EPA): How many effects determinations does EPA-OPP intend to conduct this year in Biological Evaluations or Biological Assessments on the impacts of pesticides on endangered species where there is no court ordered settlement or consent decree mandating that EPA take such action? Please provide a description of all such efforts, including specific timelines and milestones.

Answer: As mentioned in testimony, EPA intends to meet its ESA obligations for pesticide registrations via the Registration Review Program. Through this program, EPA will be re-evaluating the safety of every pesticide registration at least once every 15 years. EPA’s approach is to analyze pesticides’ potential to affect endangered and threatened species in the ecological risk assessments supporting regulatory decisions under the registration review program. EPA intends to begin the registration review process for 72 pesticides in 2011 and an additional 70 pesticides in 2012. The schedule for completing assessments on these pesticides will vary depending on whether and to what extent EPA needs to call in data from pesticide manufacturers.

Markey 9. (EPA): Previous lawsuits against EPA for failure to consult with the FWS and NMFS have resulted in interim restrictions on uses of certain pesticides in environmentally sensitive areas, such as critical habitat for the endangered red-legged frog in California, while EPA engages in the required consultations. Is EPA enforcing these interim restrictions in order to prevent harm to this species? If yes, please describe all such steps taken as part of these efforts, including information on the number of inspections performed, and list the remaining steps that EPA is considering taking. If not, why not?

Answer: The settlements and court orders arising from the lawsuits referred to in this question have not imposed FIFRA-enforceable obligations on pesticide users that would authorize EPA to take enforcement action against persons not complying with the terms of the settlements and orders. For example, in *CBD v. Johnson*, No.

02–1580–JSW (N.D. Cal., Oct. 20, 2006), the “red-legged frog case,” the stipulated injunction entered by the court provides the following:

“This Order does not require EPA to take any action under the Federal Insecticide, Fungicide, and Rodenticide Act including, but not limited to, any action to suspend, cancel, or modify the registration of any pesticide.”

Accordingly, the Order did not require a FIFRA regulatory action that would give rise to amended product labeling bearing the terms of the interim restrictions that EPA could enforce.

In connection with the Washington Toxics Coalition v. EPA (No. C01–132C, order of Jan. 22, 2004) litigation, EPA likewise made clear through a “question and answer” provided on its website that the court-ordered injunctive relief in that action was not a FIFRA action that EPA could enforce. The text of that “question and answer” is as follows:

“6. Is it a violation of FIFRA to use a subject pesticide within the buffer zones?”

In an earlier order, the Court made clear that it would neither order EPA to take regulatory action under FIFRA nor would its action setting aside the registrations in the buffer zones constitute a regulatory action under FIFRA. Although failure to comply with the court order is not a violation of FIFRA, EPA recognizes the legal effect of the Court’s Order and is providing through our web site and other avenues, information for pesticides users to understand the provisions of the Order.”

Because EPA’s sole authority to enforce pesticide use violations is through its FIFRA authority, EPA cannot enforce the terms of these settlements and court orders in the absence of FIFRA action that modifies the terms of the subject pesticide registrations.

Markey 10. (EPA): Please describe for each of the 50 states the method the EPA uses to track the use of pesticides. Is the EPA able to track pesticide applications at county level (versus the state level)? If yes, please provide a list of the States in which the EPA is able to track pesticide applications on the county level. Does the EPA have the capability to track pesticides on a finer, more localized, scale? If yes, please indicate where this level of tracking occurs.

Answer: Although FIFRA does not require EPA to track pesticide usage at the state level, EPA does routinely obtain and use information on pesticide usage in its regulatory decisions. Also, when considered necessary for individual pesticides, FIFRA section 3(c) authorizes EPA to require pesticide manufacturers to submit information to support the continued registration of a pesticide. EPA has used this authority to require reporting of pesticide usage information. For the most part, however, EPA obtains pesticide usage data from other sources including USDA, private companies, and the States. USDA’s National Agricultural Statistics Service (NASS) provides data for on-farm use of agricultural chemicals in States with major agricultural production. EPA also purchases data from a private research company, GfK Kynetec, that surveys a statistically representative sample of pesticide users and various crops and then projects that data to the State and national level. Some states provide information regarding pesticide usage, but these data sources (with the exception of California) generally are not as comprehensive or systematic as NASS and GfK Kynetec information and do not provide information on pesticide usage at the county or more geographically refined scales. California requires use reporting for all pesticide applications (excluding home and garden and most industrial and institutional uses), and collects comprehensive data on pesticide applications at the state, county, and sub-county level. EPA has access to the data collected by California.

Markey 11. (EPA): Recent research has linked atrazine exposure to cancer, birth defects, and endocrine disruption in humans, as well as significant biological harm to wildlife. Although banned by the European Union, this EPA-approved pesticide is the most commonly used herbicide in the United States. Has the EPA ever consulted with the Fish and Wildlife Service on the impacts of atrazine to any listed species within the United States? If so, please describe all such efforts. If not, why not?

Answer: EPA has requested consultation with FWS or NMFS related to the potential effects of pesticide products containing atrazine on a variety of federally listed threatened or endangered species as follows:

- August 2003—Southern Oregon/Northern California coho salmon and Central Valley California steelhead note: NMFS asked EPA to provide additional information.
- August 2006—Barton Springs salamander.

- August 2006 (with further follow-up information to the Service in 3/2007)—loggerhead turtle, leatherback turtle, green turtle, Kemp's ridley turtle, shortnose sturgeon (note: NMFS non-concurred on EPA's determination that atrazine was not likely to adversely affect the species; no further consultation has occurred), and dwarf wedge mussel in the Chesapeake Bay watershed (MD, VA, DE).
- August 2006 (with further follow-up information to the Service in 3/2007)—Alabama sturgeon in the Alabama River watershed.
- March 2007—pink mucket pearly mussel, rough pigtoe mussel, shiny pigtoe pearly mussel, fine-rayed pigtoe mussel, heavy pigtoe mussel, ovate clubshell mussel, southern clubshell mussel, and stirrup shell mussel.
- September 2007—catpaw mussel, fat pocketbook mussel, and northern riffleshell mussel.
- September 2007—Pallid sturgeon.
- September 2007—Topeka shiner.
- February 2009—California red-legged frog and delta smelt.

Markey 12. (EPA): Please describe in detail the EPA's interpretation of the statutory mandates contained in section 1010 of the 1988 Amendments to the Endangered Species Act. Please describe the actions and the specific year EPA took such actions to comply with the mandates included in this provision of the law.

Answer: In 1988, Congress addressed the relationship between the ESA and EPA's pesticide labeling program in section 1010 of Public Law 100-478 (enacted on October 7, 1988, concurrent with amendments to the ESA). This provision required EPA to conduct a study and to provide Congress with a report of the results (EPA's 1991 report to Congress: Endangered Species Protection Program as it Relates to Pesticide Regulatory Activities, EPA 540-09-91-120, May 1991) on ways to implement EPA's endangered species pesticide labeling program in a manner that both promotes the conservation of listed species and minimizes the impacts to persons engaged in agricultural food and fiber commodity production and other pesticide users and applicators. In EPA's view, this law provided a clear sense that Congress desires that EPA should fulfill its obligation to conserve listed species, while at the same time considering the needs of agriculture and other pesticide users.

Through a Federal Register notice published in March 1988, EPA reviewed its progress in developing its Endangered Species Program and invited public comment on a proposed program. Public meetings were held around the country to obtain input. Over 600 sets of written comments and recorded comments from the public meetings served to guide further development of the program. In response to section 1010, EPA, the Services and USDA formed a working group to study how EPA might proceed to carry out its ESA obligations. The work of that group and its consideration of the significant public input EPA received previously were instrumental in developing EPA's 1989 proposal on its Endangered Species Protection Program. The interagency working group further studied best methods to develop maps, alternatives to mapping, reasonable measures for mitigating risks, coordination methods, etc. The result of the working groups deliberations and study were described in EPA's May, 1991, Report To Congress as directed by section 1010(c).

Further, section 1010(a) directs EPA to take public comment on any proposed pesticide labeling program imposed in order to comply with the ESA. Pursuant to that provision, EPA issued and sought public comment on its Endangered Species Protection Program in December 2002 (67 FR 71549, December 2, 2002). A final program Federal Register notice was published in 2005.

Markey 13. (EPA): Under FIFRA authority, if EPA determines that the current use of a pesticide causes unreasonable adverse effects is it correct that EPA can only make changes to the pesticide labeling if the pesticide manufacturer willingly volunteers to change the labeling restrictions on its product? In the event that the pesticide manufacturer does not voluntarily agree to making product label changes, is EPA's only recourse the cancellation process? Since 1980, how many times has the EPA found that labeling changes are necessary, but the pesticide manufacturer refused to voluntarily change its label? For each of these cases did OPP invoke the cancellation process, and what was the final result of that process?

Answer: If EPA determines that a registered pesticide, as currently approved, causes unreasonable adverse effects on the environment, it must pursue action under FIFRA in the absence of registrant agreement to alter the terms of registration. In the vast majority of the hundreds of cases where EPA has determined that

either changes to labeling or product cancellation are necessary, EPA and the pesticide registrants have ultimately come to agreement regarding the terms and timing for implementing additional limitations and restrictions. Since 1980, EPA has had to conduct only three contested cancellation or suspension proceedings under section 6 of FIFRA. Each of these proceedings resulted in either the cancellation of the pesticide altogether or the deletion of certain uses from product registrations.

Markey 14. (EPA): Has EPA-OPP initiated consultation with the FWS or NMFS for any species on any pesticide anywhere in the country, in which at the end of the process, EPA fully implemented any RPA designed to protect an endangered species? If so, please provide examples and a description of such efforts taken, including whether these efforts were taken as a part of a court-ordered mandate or settlement of legal action.

Answer: The ecological risk assessments EPA performs under FIFRA, and any resulting pesticide use limitations to protect non-target organisms, may also provide protection for a variety of listed species. As a result, looking only at specific actions taken following consultation does not provide a complete picture of instances in which EPA has protected listed species from the potential effects of a pesticide. Nonetheless, EPA has fully implemented measures for the protection of listed species on several specific occasions. These were NOT related to litigation or court-ordered action. For example, EPA has implemented protections for:

- Attwater's prairie chicken relative to the pesticide thiram.
- Delmarva fox squirrel relative to the pesticide carboxin.
- Karner blue butterfly relative to the pesticide methoxyfenozide.
- Hine's emerald dragonfly relative to the pesticide methoxyfenozide.

EPA has long stated that it intends to meet its ESA obligations for pesticide registrations via the Registration Review Program. Through this program, EPA will be re-evaluating the safety of every pesticide registration at least once every 15 years. To date, EPA has initiated consultations for several pesticides: formal consultations for clomazone (April 2009) and fomesafen (April 2009), and informal consultations for inorganic nitrates-nitrite (May 2010), carbon and carbon dioxide (May 2010), and sulfur (May 2010). Each of these consultations was initiated without court-ordered or mandated legal settlement.

Markey 15. (EPA): When OPP completes a Biological Evaluation or a Biological Assessment, is it required to consider the application of a pesticide up to and including the legal limit of what a pesticide applicator could apply to an area of land or water as specified on a pesticide label?

Answer: EPA's ecological risk assessment procedures include estimating the environmental concentrations from use of the pesticide at its maximum labeled application rate.

Markey 16. (EPA): Do broad spectrum, organophosphate insecticides kill beneficial insect species, including pollinators like bees, predatory insects that naturally kill insect pests, and other species like butterflies? If yes, please describe which of these pesticides harm or kill beneficial species, and please explain the types of impacts that might occur as a result of exposure to these pesticides.

Answer: Some pesticides may have a specific mode of action that affects only certain pest species. However, broad spectrum insecticides would likely affect any insect species, including beneficial and other non-target insects, if the insect is exposed at levels that result in the effect. The specific effect exhibited by the insecticide on the target pest would also occur in these non-target species. Exposure to the organophosphate insecticides is expected to result in mortality due to neurotoxic effects of the insecticide. EPA's ecological risk assessments explore the potential for effects to non-target insects (beyond honey bees) in part to characterize the extent of such effects on the environment in general and on non-target species that may serve as the prey-base for another species.

Markey 17 (NMFS): In the last few years, several endangered Evolutionary Significant Unit (ESU) of salmon on the West Coast have experienced population increases. However, most of these populations still remain far below the population levels that would allow for either downlisting from endangered to threatened, or delisting under the Endangered Species Act (ESA). In fact, the National Marine Fisheries Service's (NMFS) report to Congress recognizes "trends in abundance may not be indicative of true recovery status. Other risk factors such as low levels of abundance, lack of access to historical spawning habitats, extirpation of component populations, and the lack of spatial connectivity among extant component populations are significant factors in determining recovery status." Please describe the recovery criteria for delisting each salmon Evolutionary Significant Unit (ESU) on the West Coast, and how this relates to recent population trends and abundances that indicate that some salmon ESUs are increasing.

Answer: The specific recovery criteria for each Evolutionarily Significant Unit (ESU) with a proposed or final recovery plan are included in the recovery plan documents available at the NMFS Northwest Region (<http://www.nwr.noaa.gov/Salmon-Recovery-Planning/ESA-Recovery-Plans/Draft-Plans.cfm>) and Southwest Region (<http://www.swr.noaa.gov/recovery/index.htm>) websites. These voluminous reports and their underlying scientific documents are reviewed briefly below.

After 27 Pacific salmon ESUs were listed as threatened or endangered under the ESA, NMFS initiated a coastwide process to develop recovery plans for these species. An important part of this process was the creation of geographically-based Technical Recovery Teams—multi-disciplinary science teams chaired by NMFS Northwest Fisheries Science Center or Southwest Fisheries Science Center staff. NMFS asked the Technical Recovery Teams to define ESU structure (i.e. the independent and dependent populations that make up the ESU) and to develop recommendations for biologically-based ESU and population viability criteria.

NMFS encouraged each Technical Recovery Team to develop regionally specific approaches while adhering to the same biological principles for describing ESU and population viability. The biological principles for viability used by all Technical Recovery Teams are described in a NMFS technical memorandum, *Viable Salmonid Populations and the Recovery of Evolutionarily Significant Units* (McElhaney et al. 2000¹). NMFS defines a viable ESU as being naturally self-sustaining with a high probability of persistence over a 100-year time period. Viable salmonid populations are defined in terms of four parameters: abundance, productivity (growth rate), spatial structure, and diversity. Each Technical Recovery Team recommended criteria for these parameters describing viable levels for an ESU and its component populations. An ESU must meet or exceed these viability criteria for a sustained period of time (e.g., 10–20 years or several salmon generations) to demonstrate confidence that the ESU has attained a high probability of persistence. For the 12 ESUs with recovery plans proposed or completed so far, NMFS has largely adopted Technical Recovery Team recommendations for biological viability criteria, with some modifications. It is notable that to date, for all final recovery plans, the biological viability criteria have been endorsed by key stakeholders, including the states of Oregon and Washington, affected tribes, local governments, and other stakeholders.

The spatial structure and diversity components of the viable salmonid population approach are the foundation of viable salmon populations and ESUs; are critical components of conservation and recovery efforts; and are required components to be considered in progress towards recovery. The situation is analogous to managing a financial portfolio: a well-diversified portfolio will be impacted less by fluctuating market conditions than one concentrated in just a few stocks. For example, the expression of a diversity of life-history types (e.g., run timing of adults, timing of smolt ocean migration, freshwater residency time, time spent in the marine environment) and a distribution of spawning groups across the landscape can buffer populations and ESUs from the impacts of environmental variation.² Having populations appropriately distributed across the landscape reduces the likelihood that a single catastrophic event (e.g., drought, fire) would impact all of the populations in an ESU. High abundance and productivity alone cannot make populations or ESUs resilient to changes in environmental conditions. Accordingly, recovery planners are emphasizing the need for salmon populations to be spread across the landscape and in a variety of habitat types to support the diversity and spatial structure necessary for population and ESU viability.

¹ Available online at: http://www.nwfsc.noaa.gov/assets/25/5561_06162004_143739_tm42.pdf

² Lindley et al. 2009. What caused the Sacramento River fall Chinook stock collapse? U.S. Department of Commerce, NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-447.

In addition to biological viability criteria, each recovery plan also must include threats criteria. Threats criteria are based on the five listing factors in section 4(a)(1) of the ESA: (A) present or threatened destruction, modification, or curtailment of [the species'] habitat or range; (B) over-utilization for commercial, recreational, scientific or educational purposes; (C) disease or predation; (D) inadequacy of existing regulatory mechanisms; or (E) other natural or human-made factors affecting [the species'] continued existence. Threats criteria describe conditions that, if met, would indicate that the listing factors have been addressed sufficiently that the removal of ESA protections is not likely to result in the re-emergence of the threats.

The ESA requires that NMFS conduct a review of threatened and endangered species at least once every five years to determine whether it should retain its current listing status, remain listed but change in status, or be delisted. NMFS is currently completing such a review for ESA-listed West Coast salmon and steelhead. As part of this review, the agency is updating the available status information for the viability parameters and ESA listing factors, and evaluating recent trends relative to the biological viability and threats criteria detailed in proposed or final recovery plans, where they exist. Several, but not all, ESA-listed salmon ESUs have increased in abundance the last few years, in some cases following precipitous declines since 2002. As described above, abundance is but one of many parameters considered in evaluating overall ESU viability and progress toward recovery goals. Additionally, improvements must be sustained for a sufficient period of time to demonstrate a high probability of persistence. While recent abundance trends for some ESUs may be encouraging, they alone may not reflect true progress toward delisting goals. NMFS Northwest Region expects to announce its 5-year status review findings in the fall of this year. NMFS Southwest Region expects to announce its findings also in the fall, 2011. Results will be announced in the Federal Register, as well as posted at <http://www.nwr.noaa.gov> and <http://www.swr.noaa.gov>.

Markey 18. (NMFS): Please describe what additional risks endangered ESUs of salmon face if the factors affecting freshwater survival of endangered salmon are not fully addressed, especially since ocean conditions are variable and may revert to less favorable conditions for salmon?

Answer: Put simply, threatened and endangered salmon ESUs are unlikely to persist if the condition of their freshwater habitat is not improved and protected. The quality and quantity of freshwater habitat is particularly important to salmon during periods of poor ocean conditions. When marine conditions are poor due to warm ocean temperatures or decreased nutrient up-welling, salmon survival in the ocean is often low. During these times, high survival in freshwater becomes crucial to maintaining salmon abundance. If freshwater habitat is degraded, (e.g., high stream temperatures, low levels of woody debris, high level of contaminants, etc.) survival in the freshwater environment may be low as well. When poor freshwater and marine habitat conditions overlap in time, salmon populations can be driven to very low abundance and extinction risk can increase significantly. As noted in the response to Question 1, above, the distribution of salmon populations across a variety of habitat types is essential for the expression of diverse salmon rearing and migration behaviors. Such life-history diversity allows salmon populations to be more resilient to environmental change. For example, the diversity of life histories in Chinook salmon (e.g., variations in size and age at migration, duration of freshwater and estuarine residency, time of ocean entry) has been described as an adaptive strategy for spreading mortality risks in uncertain environments. For these reasons, NMFS recovery plans for West Coast salmon and steelhead emphasize the importance of restoring and protecting freshwater habitat diversity, quality, and quantity. Populations with properly functioning freshwater habitat are at less risk during prolonged periods of unfavorable marine survival.

Markey 19. (NMFS): It is generally accepted that hatcheries currently play a vital role for West Coast salmon fisheries, but are not a substitute for wild salmon runs. Please discuss the importance of wild salmon runs in building a sustainable, long-term salmon fishery, and the benefits that wild runs provide to fishing communities.

Answer: Hatchery programs were initiated for fishery enhancement purposes as wild salmon runs became depleted, and as mitigation for habitat loss resulting from the construction of dams and other migration barriers. Although hatchery programs may provide near-term benefits to abundance and productivity while habitat degradation and other threats are addressed, over the long term, hatchery fish cannot adequately replace the role of well-distributed and diverse wild salmon populations in supporting healthy ecosystems, sustainable fisheries, vibrant coastal commu-

nities, and the meaningful exercise of tribal treaty rights and cultural practices. Despite considerable investments in the hatchery production of salmon and steelhead, there are dramatically fewer fish returning than was historically the case and annual returns vary considerably. Long-standing evolutionary theory and emerging empirical evidence suggest that hatchery operations can undermine the diversity and productivity of nearby wild populations if not properly operated. Moreover, hatcheries are dependent upon ongoing infusions from the wild populations to maintain their own productivity over time. Fisheries dependent upon genetically and behaviorally homogeneous hatchery-produced salmon are more vulnerable to periods of poor ocean conditions and have experienced significant limits on harvest and, in some cases, fishery closures.³ In contrast, current research demonstrates that well-distributed wild salmon populations with diverse life histories demonstrate more resiliency to environmental change and can support more prolific and sustainable fisheries.⁴ Pacific coastal and inland communities whose economies rely on sustainable salmon fisheries, in turn, benefit from a reliable, sustainable wild salmon product that demands a market premium.

In several of NMFS' recovery plans, the state and tribal governments and local stakeholders are embracing "broad sense" goals in excess of the levels needed for ESA delisting. These broad sense goals call for enough wild salmon to provide for sustainable recreational, commercial, and tribal treaty and trust fisheries, as well as for other ecological, cultural, and social benefits.

Markey 20. (NMFS): Please discuss the ways that NMFS has provided for public participation during the consultation process with EPA in each of the four completed biological opinions for West Coast salmon as well as public participation during the upcoming biological opinions which will be completed in the next several years. How have these efforts exceeded what is normally afforded to the public during a typical consultation with a federal agency?

Answer: NMFS issues draft biological opinions to EPA. EPA has provided opportunity for public comment on each of these consultations. In addition, NMFS meets with the applicants for each consultation to seek the applicants' input into the biological opinions. NMFS has held stakeholder workshops on these biological opinions and has participated in one grower-sponsored workshop at the invitation of the growers. Because interagency consultation is not a rulemaking process, NMFS does not typically seek public comment on its draft biological opinion. The process NMFS and EPA have engaged in to seek public input into these pesticides consultations provides substantially more opportunity for public participation than is available in most ESA consultations.

Markey 21. (NMFS): What steps has NMFS taken to refine and improve the consultation process, taking into consideration lessons learned as each Biological Opinion is completed?

Answer: As NMFS has completed each consultation, it has refined its approach to the consultation process and has taken steps to engage applicants in the process early in the consultation. NMFS issues draft biological opinions to EPA. EPA has provided opportunity for public comment on each of these consultations. In addition, NMFS meets with the applicants for each consultation to seek the applicants' input into the biological opinions as time and staffing allowed, given the very tight court ordered schedules. Because interagency consultation is not a rulemaking process, NMFS does not typically seek public comment on its draft biological opinion. The process NMFS and EPA have engaged in to seek public input into these pesticides consultations provides substantially more opportunity for public participation than

³The 2007 and 2008 closures of West-coast Chinook salmon fisheries provide an example. The long-standing and ongoing degradation of freshwater and estuarine habitats and the subsequent heavy reliance on hatchery production were likely contributors to the collapse of the fisheries during a period of poor ocean conditions. Over 150 years of degradation and simplification of freshwater and estuary habitats have changed Central Valley Chinook salmon from a highly diverse collection of numerous wild populations to one dominated by fall-run Chinook salmon from four large hatcheries. Naturally-spawning populations of fall Chinook salmon are now genetically homogeneous in the Central Valley, and their population dynamics have been synchronous over the past few decades.

⁴Schindler, D.E., R. Hilborn, B. Chasco, C.P. Boatright, T.P. Quinn, L.A. Rogers, M.S. Webster. 2010. Population diversity and the portfolio effect in an exploited species. *Nature* 465:609–613. Available on-line at: <http://viewer.zmags.com/publication/5faee868#5faee868/4>

Hilborn, R., Quinn, T.P., Schindler, D., and Rogers, D.E. 2003. Biocomplexity and fisheries sustainability. *Proceedings of the National Academy of Sciences* 100: 6564–6568.

Hilborn et al. 2003. Biocomplexity and fisheries sustainability. *Proceedings of the National Academy of Sciences* 100: 6564–6568.

is available in most ESA consultations. Over the course of these consultations, NMFS, EPA, the states, the growers and the applicant community have all become more mutually educated into the issues and perspectives of each.

Markey 22. (NMFS): Please describe the average workload for NMFS employees who are responsible for completing endangered species consultations. Are additional resources needed that would allow NMFS to complete consultations in a timely manner?

Answer: NMFS consults on a variety of federal actions that vary in degree of complexity and geographic scope. Most consulting biologists are working on multiple consultations at any given time. Although NMFS consults on federal actions that are on known schedules, most requests for consultations cannot be predicted. These factors affect staff workload and completion times. NMFS has 6 FTEs dedicated to consultations on EPA FIFRA registrations, which allow the application of chemicals for multiple agriculture and non-agricultural purposes over large areas. In addition to preparing the biological opinions, those staff must also work on preparing for litigation, preparing for and traveling to meet with stakeholders and participate in workshops, and must respond to multiple requests for information related to these consultations. With this level of staffing, NMFS will not be able to handle the anticipated increase in consultations coming from EPA's registration review programs. NMFS anticipates approximately 40 additional FTEs would be needed to meet future EPA FIFRA consultations. Approximately \$6 million per year would be needed to support these FTEs, for salary, benefits, as well as for overhead costs such as space, equipment, supplies and travel.

Markey 23. (NMFS): Does Section 1010 of the 1988 Amendments to the Endangered Species Act place any new statutory obligations on the NMFS? Does Section 1010 afford pesticide manufacturers any special rights that are not typically afforded to the general public during the consultation process?

Answer: Section 1010 of the 1988 Amendments to the ESA (Public Law 100-478, Oct. 7, 1988) require EPA to work jointly with USDA and the Department of the Interior to identify appropriate alternatives for implementing a program to protect listed species from pesticides, while allowing agricultural, food and fiber commodity production to continue. The amendments require EPA to investigate the best available methods to develop maps, alternatives to mapping, and to identify alternatives to prohibitions on pesticides use. The amendments also require EPA to inform and educate fully those engaged in agricultural production of the elements of any proposed pesticide labeling program and to provide an opportunity to comment on the elements of such a program. The amendments do not place any new statutory obligations on NMFS, nor do they afford pesticide manufacturers any special rights in the consultation process. However, many manufacturers may qualify as applicants to these consultations.

Markey 24. (USDA): In the USDA's 2003 economic analysis referenced in your testimony, which was originally prepared for the Court in *Washington Toxics v. U.S. Dept. of Interior*, you provided an estimate of the economic impacts of imposing no-spray buffers. Please explain whether or not this economic analysis account for the full set of costs and benefits of restricting pesticides including:

- Economic benefits to farmers that already engage in alternative pest-control approaches;
- Economic benefits to organic farmers;
- Economic benefits to commercial or recreational fishermen;
- Water treatment costs;
- Healthcare costs to farm workers that might be exposed to pesticides; and
- General reductions in healthcare costs to members of the public, including children who are exposed to pesticides.

Answer: The 2003 economic analysis did not consider benefits to organic farmers or farmers engaging in alternative pest control approaches, benefits to fishermen, water treatment costs, or healthcare costs to farm workers or the general public. The analysis assumed land in the no-spray buffers would be retired from production resulting in lost production and sales revenues.

Markey 25. (USDA): In the USDA 2003 economic analysis prepared for the Court in the *Washington Toxics* case, you provided an estimate of the economic impacts of imposing no-spray buffers. Was this analysis limited to a worst case scenario that assumed that in the absence of spraying a particular pesticide, the farmland would lay fallow? During the time that this analysis was prepared how likely was it that this worst case scenario would occur? Did the analysis take into account the hundreds of other registered pesticides that could have been used in the West Coast states to treat infestations?

Answer: The analysis assumed that the 54 pesticide active ingredients in the *Washington Toxics* case are critical to crop production, alternatives result in unacceptably high yield losses and that the loss-minimizing strategy for growers would be to retire the land in the buffer strips. The likelihood of this outcome for every potential crop was unknown. The likelihood that an alternative pest control measure could be used effectively in the buffer parcels was also unknown.

Markey 26. (USDA): In 2009, Washington State agriculture received over \$720 million in subsidies and \$24 million in disaster relief. When the USDA calculates the economic benefits and costs of utilizing a particular pesticide, does it also take into account the subsidies that agricultural entities receive from the federal government in those cost/benefit analysis? If yes, please describe how. If not, why not?

Answer: Agricultural subsidies would not be considered in cost-benefit analyses of pesticides unless program eligibility or the size of payments depended on pesticide use. Farm program payments to producers are not related to a grower's use of pesticides. The expected benefits from pesticide use in agricultural production are yield and crop quality. Cost-benefit analyses of pesticides are generally limited to primary effects but may consider secondary effects. Primary impacts are yield, quality, and cost of the pesticide and its application. Secondary impacts which may be measurable are effects on crop prices from changes in aggregate production, effects on non-target organisms, and effects on environmental quality including human health.

Markey 27. (USDA): According to the 2009 USDA Economic Research Service report *Emerging Issues in the U.S. Organic Industry*, "significant price premiums exist for fresh organic produce and organic milk, the two top organic food sales categories, compared with conventional products." Organic agriculture also maintains "the public-goods nature of environmental services, such as biodiversity and water quality." According to the report, the price charged for conventionally grown agricultural products does not "reflect the true social value of these services." In the USDA 2003 economic analysis there is no mention of public goods, such as biodiversity and water quality protection, are these factors important in determining the costs of applying pesticides? Did the USDA also take into account the social value of ecosystem services in the 2003 analysis?

Answer: The social value of ecosystem services was not part of the 2003 economic analysis.

Markey 28. (USDA): Does the USDA's statistics from the National Agricultural Statistics Service (NASS) shed light on whether organic farms have higher or lower net income than conventional farms? If so, please describe the differences in income generated on conventional and organic farms in the most recent year for which the USDA has sufficient data.

Answer: Some insight into the financial performance of organic and conventional farms can be derived from the Agricultural Resource Management Survey (ARMS). The ARMS data include detailed farm financial information, such as farm income, expenses, assets, and debt, as well as farm and operator characteristics on certain organic and conventional farms. Analysis of milk producers in 2005 found organic farms had net farm income of \$61,732 compared to \$109,451 for conventional farms. In 2006, organic soybean producers had net farm income of \$91,099 compared to \$72,874 for conventional. In 2009 organic wheat producers has net farm income of \$44,382 compared to \$67,433 for conventional. Relative returns depend on the relative commodity prices in each year. For example conventional soybean prices in 2006 were less than \$7 per bushel, but have since moved above \$13 per bushel.

Markey 29. (USDA): Do spray buffers provide habitat for beneficial insect species, including natural crop pollinators and predatory insects, birds, and mammals that control insect pests? Do spray buffers also work as low-cost control measures that reduce the impacts of pesticide drift and pesticide run-off into nearby water-bodies?

Answer: Spray buffers are areas where no pesticide spray is permitted. This type of buffer may include vegetated areas between the field and other land uses. These no-spray buffers may provide habitat for beneficial insects, pollinators, or predators of insect pests as well as potentially providing habitat for insect pests. All vegetated field buffers, regardless of purpose, may attract beneficial insect species, pollinators, and predatory insects, birds, and mammals. The no-spray buffers implemented in the *Washington Toxics* case were not designed to provide habitat and may include unsprayed areas of agricultural fields. In *Washington Toxics*, the no-spray buffers were established to protect endangered salmon and their habitat. No-spray buffers may reduce pesticide drift and run-off from reaching nearby water-bodies, but whether buffers perform this function is dependent upon their design. Vegetated field buffers may be valuable in further reducing the potential impacts of pesticide drift and runoff into nearby water. Vegetated buffers are not necessarily low-cost control measures as they take land out of production, but producers understand their value.

Gosar 1. (NMFS/FWS/EPA): Is there some way to merge the ESA required assessment and the required EPA risk assessment into one program to streamline the registration process for pesticides?

Answer: EPA and the Services believe that their risk assessment methodologies should be closely aligned so as to promote the quality of the scientific foundations of these assessment and to promote regulatory efficiency, timeliness and predictability. The agencies do not, however, believe that the risk assessment process and the ESA assessment process should be merged into one program. The agencies share the common goal of ensuring that pesticide use is not likely to jeopardize endangered or threatened species or adversely modify their designated critical habitat. To that end, EPA performs an extensive evaluation of the risks for every pesticide product, which includes a careful consideration of the potential for adverse effects on non-target animals and plants. EPA's risk assessment process could be modified to include a rigorous assessment of effects to endangered species. Incorporation by EPA of a more rigorous assessment of endangered species would streamline the ESA consultation process. EPA and the Services believe EPA should perform the assessment of the ecological risks of a pesticide so that the Services can use EPA's assessments to quickly complete a consultation on EPA's proposed regulatory decisions. The three agencies believe that reaching agreement on the scientific methodology used to assess the ecological risks of pesticides is a critical step that will support the development of the transparent, efficient, and effective consultation process that everyone seeks.

Gosar 2. (NMFS): Is it possible that the vast expansion of species listed on the endangered species list (currently over 1800 plants and animals vs. 109 when first established) has created a situation where consultations with other agencies cannot be completed in a timely manner?

Answer: Yes. The large number of species now listed does create additional challenges for national actions such as pesticide registrations. However, the principal issues that have delayed these specific consultations are discussions pertaining to the interpretation of scientific information and how to deal with scientific uncertainty under FIFRA and ESA.

Gosar 3. (EPA/NMFS): What is the connection between this consultation process and the Clean Water Act regulations? What impact will the expansion of jurisdiction proposed by EPA under the Clean Water Act in the recently released guidance document have on this process? If we are unable to complete consultations between agencies now, will the expanded role of EPA in the Clean Water Act further complicate this situation?

Answer: Under the ESA section 7, federal agencies are required to ensure that their actions are not likely to jeopardize the continued existence of threatened and endangered species or adversely modify their designated critical habitat. This provision applies to EPA's actions under the Clean Water Act (CWA), including the issuance of permits under the National Pollution Discharge Elimination System (NPDES) program. In 2010, EPA issued a proposed Pesticide General Permit (PGP) that would cover certain application of pesticides in or over, including near, waters of the United States. Specifically EPA's PGP would cover pesticide applications in

those jurisdictions for which states did not exercise delegated authority to administer the NPDES program under the CWA. Currently, EPA administers the entire NPDES program in the District of Columbia, Massachusetts, Idaho, New Hampshire, New Mexico, Oklahoma, and Alaska. EPA also administers the NPDES program for most territories, tribal lands, and certain federal facilities. These jurisdictions comprise the “action area” for the PGP consultations.

EPA has prepared and submitted to FWS and NMFS a Biological Evaluation to initiate consultations for the PGP. NMFS is in consultation with EPA on the PGP and on June 17, 2011, NMFS submitted to EPA a draft Biological Opinion. EPA took public comment on the RPAs in the draft opinion until July 25, 2011.

There is no direct connection between the NMFS consultations on EPA’s regulation of specific pesticides under FIFRA and the ongoing consultation on the PGP. There is, however, some overlap between the action areas (e.g., Idaho) and some of the pesticide uses (e.g., malathion use in mosquito control) considered in the different consultations.

EPA recently released the “Waters of the U.S. Draft Guidance” to provide clearer, more predictable guidelines for determining which water bodies are protected by the Clean Water Act, available at <http://water.epa.gov/lawsregs/guidance/wetlands/CWAwaters.cfm>. EPA expects that this proposed guidance will have no effect on the consultation concerning the PGP or other consultations concerning EPA actions under the CWA.

Schrader 1. (NMFS): What actual evidence is there of Salmon/fish being killed as a result of pesticide use under FIFRA?

Answer: EPA maintains a database of incident reports, which include some reports of fish kills. Kills have been reported for a range of pesticides, including some of the active ingredients considered in the consultations NMFS has completed. Reported kills affect a range of species, and sometimes include salmonids.

The current incident reporting system, while useful, has some short comings. If adverse effect information (such as a fish kill) is reported to the registrant, the registrant is obliged to report that information to EPA. However, as far as NMFS is aware, there is currently no requirement for an individual who observes a fish kill associated with or potentially associated with pesticide to report it to the registrant. Fish kills may be reported to state, local, or tribal governments, which may or may not a) investigate them or b) report them to EPA for inclusion in the incident database. When incidents are investigated it is not always possible to positively identify the cause(s), although sometimes it is reasonable to link it to a nearby pesticide application.

In short, many reports of incidents associated with a specific pesticide are usually an indicator of a problem, but a lack of incident reports does not necessarily indicate the reverse. If the pesticide affects aquatic invertebrates or very small fish (including larval or juvenile stages), the dead organisms may not be observed.

NMFS has attempted to address some of the current shortcomings in the reporting system with a Reasonable and Prudent Alternative delineating additional reporting.

Schrader 2 (NMFS): Is there any evidence in the field of deformities in the Salmonid population as a result of properly used pesticides?

Answer: NMFS is not aware of specific studies linking salmonid deformities to a specific pesticide; however, we do note that such cases do exist in aquatic systems. An example of this is sexual reversal (“imposex”) in mollusks caused by the use of tri-butyl-tin (TBT) as boat bottom paint.

Linking a specific deformity noted in the field to a specific pesticide and then determining if that pesticide was used properly is exceptionally difficult. It is not a one-step process, and generally requires several lines of evidence, including laboratory studies to determine the etiology of the deformity, a fish survey in the field to determine incidence of the deformity, and an analysis of contaminant inputs in the watershed to evaluate whether that pesticide is present and in what quantities. Typically such a suite of studies is not initiated unless distinct deformities have been noted in a specific population.

Some deformities caused by pesticides and/or other contaminants are externally obvious, such as spinal twists and eroded or missing fins. These deformities might be noted in seasonal fish surveys, or possibly even by casual anglers. Other deformities, such as malformed organs, modifications in biochemical pathways, or genetic mutations would not be obvious unless the fish was necropsied. Internal deformities also may never appear in an adult fish population, but instead appear as reduced abundance, because the fish with deformities never mature past the larval stage.

Thus, while reports of deformities in salmonid populations associated with pesticide use is an indicator of a problem, a lack of such reports does not necessarily indicate they do not occur.

NMFS considers all available information, including laboratory studies, and field studies to evaluate whether deformities could be caused by pesticide use.

Schrader 3. (NMFS): Have there been any cases of outbreaks of human illness as a result of eating pesticide laden fish?

Answer: (EPA) Although there are advisories against consuming fish due to the possible presence of residues of some cancelled pesticides, EPA is not aware of any outbreaks of human illness attributed to eating fish with pesticide residues.

Schrader 4. (NMFS): Are your recommendations based on modeling or actual field sampling?

Answer: NMFS recommendations are based on information from models, field sampling and studies, and laboratory studies. When NMFS does the exposure analysis we consider the range of potential environmental concentrations, both modeled concentrations (estimated environmental concentrations or EECs) and concentrations measured in the environment through ambient and targeted monitoring programs (measured environmental concentrations or MECs). When NMFS does the response analysis, it is based primarily on laboratory studies, although NMFS also considers field studies when they are available, especially those which report population or community level effects. Because the majority of toxicological information available relates to effects on individuals, it has used models to link that information on individual-level effects to predict population-level effects for the cholinesterase-inhibiting active ingredients considered in the first three opinions. Buffer widths and maximum concentration levels (MCLs) in the RPAs and reasonable and prudent measures were developed using modeling programs (AgDrift and PRZM-EXAMS) to develop estimated environmental concentrations for particular application rates and methods. AgDrift and PRZM-EXAMS are the same programs used by EPA. Because application rates and methods are site-specific, it would be exceptionally difficult, if not impossible, to develop buffer widths and/or maximum concentration levels based on field sampling.

Schrader 5. (NMFS): What assumptions are made from modeling? If proper instructions are followed on pesticide application, would modeling yield same results?

Answer: Based on context, NMFS assumes this question refers to the models which predict estimated environmental concentrations, such as PRZM-EXAMS and AgDrift, rather than the salmonid population model.

Modeling inputs for PRZM-EXAMS and AgDrift include information on the fate properties of the active ingredient and information on how the active ingredient is applied. The critical underlying assumption for both these models is that the receiving water body is next to the use site, and that the water body is subject to runoff and/or spray drift containing the active ingredient. Modeling inputs include the application rate, method, and interval directly from the labels, thus water concentrations estimated from the models should be similar to what occurs in the environment if label instructions are followed and other conditions (e.g., weather, landscape, and hydrology) correspond to the conservative assumptions used by EPA. EPA describes concentrations generated by PRZM-EXAMS as a “conservative, high-end estimate.” The estimates of pesticide concentrations in water generated by PRZM-EXAMS are consistently higher (often by orders of magnitude) than residue levels detected through monitoring. Nonetheless, NMFS believes PRZM-EXAMS, as implemented by EPA, underestimates concentrations of active ingredients in small, low-flow water bodies that serve as important habitat for juvenile salmonids. In other situations, NMFS believes PRZM-EXAMS estimated environmental concentrations are a reasonable estimate, although they do not reflect the highest concentrations, nor account for additional stressors other than the active ingredient.

Schrader 6. (NMFS) Do you ever randomly sample fish in streams near major agricultural enterprises where pesticides are used? (e.g. Hood River Orchard, CAFO Operations)

Answer: NMFS has not commenced any specific sampling. NMFS's science centers may conduct specific sampling activities in these types of freshwater systems episodically as part of their general scientific investigations into salmon habitats in its West Coast salmon science programs, but these field investigations are not part and parcel of any systematic water quality or habitat monitoring program designed or conducted by NMFS as part of its work with EPA on FIFRA consultations.

Ellmers 1. (FWS) This hearing is of particular interest to me as the Town of Garner in my district is battling with the EPA and the Fish and Wildlife Service to build a highway. Halting the project is a dwarf wedge mussel, which is protected under the Endangered Species Act. Because a handful of the mussels were found in the path of the proposed highway, an alternate route must be considered, one that would not disturb the mussels. The selected alternative would not disturb any mussels because it will go right through the Town of Garner, slicing it in half. Countless homes, communities, and businesses would be destroyed and Garner would lose millions in investments and hundreds of jobs.

It is my understanding that a letter is now being circulated by the Southern Environmental Law Center threatening legal action, as the state legislature passed a law to prevent the alternative route from going forward. Environmental groups like the Southern Environmental Law Center routinely sue the government on environmental issues because they get awarded attorney's fees—even if they are only partially successful. The Federal Government is literally paying someone to sue to force it to act in a way it has decided is not in its best interests. This is nonsensical and a waste of taxpayer dollars.

In your opinion, what can we do to stop these types of lawsuits?

Answer: Plaintiffs are only entitled to litigation fees when they are a prevailing party. The best approach to avoid paying attorney fees is for the government to comply with the statutes and prevail in court. FWS regularly works with project proponents to develop modifications to proposals to avoid and minimize negative impacts to listed species, allowing projects to move forward in a manner consistent with the ESA.

Ellmers 2. (FWS): Should we be contemplating repealing them one by one as each law comes up for reauthorization?

Answer: The citizen-suit provisions of environmental statutes such as the ESA are an important tool to help ensure that our government implements the laws and does so in a consistent manner. The FWS strives to consult with applicants early in the planning process, allowing questions to be raised and resolved to the maximum extent possible.

Conaway 1. (FWS): According to USFWS employees, the Service is required to utilize the “best available science” when making listing determinations. At a recent hearing in Texas, when asked to clarify what counts as “best available science,” a USFWS employee stated that “We know it’s the best available science, because it is the science that is available.” Could you please expand on that logic? Is it your agency’s position that all scientific studies are equally rigorous? As I understand it, the “best available data” surveyed less than 1% of lizard’s the habitat in Texas. Does your agency consider a *lack* of data to be a barrier to scientific understanding? Is there a threshold or a yardstick that your agency uses to determine the soundness of the data and science used in a listing determination? Does your agency ever exclude available science or data from a listing proposal? If so, for what reasons?

Answer: The Service is required to use the best available scientific and commercial data available to support our listing determinations under the ESA. We gather and evaluate biological, ecological, and other information to ensure it is reliable and credible. We strive to use primary and original sources of information as the basis for our listing decisions. These sources include peer reviewed literature, grey literature (unpublished scientific reports), and personal communications with experts on the species or threats we are evaluating. We do not exclude available relevant science in our determinations; however, when the science is not definitive or the conclusions are unclear, we explain the uncertainties surrounding our interpretation and use of the information. In many cases, we do not have all the science that would be ideal, but we review and apply all known relevant science that is available in our listing determinations. One reason for the comment period and peer review on our proposed rules is to allow for interested parties and experts to submit information that we may have missed or that we were not aware of. This information will be evaluated and used in our final rule.

Listing determinations focus on threats to the species and its habitat. As such, population estimates can inform the status of the species across their range, but these numbers are only one facet of the information we use to evaluate the threats to the species. It is our understanding that researchers from Texas A&M University

will be doing surveys for lizards and habitat delineation in Texas. We will include a summary of this information in our final rule, if it is available.

Conaway 2. (FWS): Following the listing of the Concho Water Snake, a ten-year long assessment of the snake was conducted, which showed the snake never had been threatened or endangered—it was simply misunderstood and poorly studied. Since the publication of that study in 1996, your agency has demanded an additional 12 years of study on the Snake. What is the criterion the USFWS uses to judge the data for responding to a delisting proposal? Is there a point where further research no longer enhances scientific understanding? Do you believe that the difference in scientific standards for listing and delisting species confuses and angers the public?

Answer: The 10-year study of the Concho water snake that ended in 1996 was conducted by the Colorado River Municipal Water District. The study provided much new information about the biology and ecology of the snake, including that it could persist in reservoir environments. However, a determination of whether or not a species is warranted for listing as threatened or endangered under the ESA considers whether there are sufficient threats (under the five factors identified in the ESA that put a species in danger of extinction. Only after we consider the best available information and determine that the species no longer warrants protection under the ESA, is a species considered for delisting. There is no difference in the scientific standards for listing and delisting species under the Act. In the case of the Concho water snake, the Service is evaluating a host of potential threats to the snake to ensure that none of them are continuing to result in the snake likely becoming endangered in the foreseeable future.

The ESA requires that we monitor the status of all species that have recovered and been removed from the list of threatened and endangered species for not less than five years. The Service has drafted a post-delisting monitoring plan for the Concho water snake for implementation should the snake be removed from the list of threatened species. The current plan envisions monitoring the snake for 13 years following delisting. The Service found this length of monitoring necessary to ensure that the snake and its habitat remain secure from the risk of extinction following the delisting. This will give more time to evaluate the effects of ongoing reservoir operations on stream flow rates and snake populations. This longer time period of post-delisting monitoring is important because O.H. Ivey Reservoir has only been in place for about 20 years—a relatively short timeframe. This monitoring will be funded by the Service in cooperation with the Texas Parks and Wildlife Department.

Conaway 3. (FWS): Recently, my office sent you a letter regarding the long-standing delays in delisting the Concho Water Snake. Thank you for your reply; I look forward to seeing the final determination this summer. In my discussions with the scientists in your agency, they have made it abundantly clear that they support removing this snake from the endangered species list. In my letter, I noted that it has been almost three years since the Service first proposed to delist the Concho Water Snake, even though the delisting has the vocal support of the scientists who have the expertise to make these decisions. Do you think that the Service's constant and consistent delays in delisting the Concho Water Snake or other recovered species have damaged its credibility in the eyes of landowners, the affected municipalities, and the American public? What steps are you taking to ensure that you publish the Final Determination by the end of August? What resources and staff do you have dedicated to ensuring that this deadline is met?

Answer: We regret that the final determination on whether to delist the Concho water snake has taken longer than we hoped. We have a team of dedicated staff working to complete the final determination and intend to have it completed this summer. While we strive to make these kinds of decisions in a timely manner, it is equally important that the decisions be fully evaluated and all considerations be examined and vetted before determinations are made. It is imperative that our findings be based on the best available science so they may be legally defensible in the event they are challenged in court. We appreciate your patience as we complete the final determination regarding delisting of the snake.

Conaway 4. (USDA): Before deciding to abruptly terminate the Current Industrial Reports did the Census Bureau consult with USDA to determine how the reports are being used and the impact discontinuing them would have on the ability to analyze and anticipate market trends and price volatility for key agricultural commodities and products, including wheat and wheat flour, cotton and cottonseed oil and meal, and oilseeds, vegetable oils, protein meal, and biodiesel? If so, please provide comments and feedback received in those consultations.

Answer: Please note that this question and the remaining questions were referred to the Census Bureau for a response. Once the President's FY 2012 Budget was released in February 2011, the Census Bureau contacted over 30 CIR stakeholders (trade association and other government agencies such as the United States Department of Agriculture) and met with over 20 of them on June 15, 2011 to discuss the termination of the program and the possibility of restoring it on a limited basis as a reimbursable project. The Census Bureau provided cost estimates for over 20 surveys to the stakeholders and a schedule of termination for the program by the end of the fiscal year. Feedback and information is still being gathered from the attendees and other stakeholders to determine if any of these surveys will be conducted on a reimbursable basis.

Prior to reallocating the funding for the reports, the Census Bureau consulted with the Bureau of Economic Analysis (BEA) to assess the impact on the National Accounts and quarterly estimates of Gross Domestic Product (GDP). The availability of manufacturing product class data from the Annual Survey of Manufactures (ASM) and the continued collection of detailed product information in the Economic Census and in the monthly trade statistics program will serve to mitigate the effect of discontinuing the CIRs

Conaway 5. (USDA): Is the CIR program providing data that is duplicative with other government surveys? Are there other data sources that will match the detail and frequency of the CIR program?

Answer: The CIR program does not duplicate any other government surveys and there are no other government sources that produce data with the same detail and/or frequency. The Census Bureau publishes information on detailed manufacturing products on an annual basis at the product class level (i.e. a higher aggregation than the product level) for 121 categories through the Annual Survey of Manufactures (ASM). The 47 CIRs accounted for approximately 5400 product categories while the ASM has over 1700 product class categories. The consistency between the CIR and the ASM allows a data user to continue to monitor, evaluate, and understand the market. Because the ASM does not collect data on quantity, unit cost data on an annual basis will be lost. However, the Economic Census collects comparable data (value and quantity) for the manufacturing sector that will allow users to derive unit cost. Moreover, on balance the Census Bureau continues to measure the manufacturing sector (e.g. new orders, capital and IT investments, research and development, corporate profits, etc.) in far more detail than any other economic sector.

Conaway 6. (USDA): Has there been any consideration to providing a transition period rather than terminating the program with virtually no advance notice and no consultation with private sector and government subscribers?

Answer: To reallocate the \$4.1 million in funding to higher priority programs within the Census Bureau in FY 2012, the Bureau proposes to end the CIR program at the end of this fiscal year according to the schedule provided to stakeholders. The President's Budget was published in February 2011 which allows almost seven months for the Bureau to prepare data users for the end of the program. Once the proposal was public, the Bureau contacted and met with data users to offer them options and prepare them for the transition

Conaway 7. (USDA): What are the anticipated budget savings arising from the program's elimination. Also, what is the total economic activity generated by the sectors covered in the report?

Answer: The termination of the CIR Program with the FY 2012 budget is the result of a review of both ongoing and cyclical programs necessary to meet the Census Bureau's core mission and required difficult choices in balancing program priorities and fiscal constraints. This review resulted in the termination of the Current Industrial Report in order to fund higher priority programs within the Census Bureau. The cost savings from eliminating this program are \$4.1 million. The manufacturing sector as a whole accounts for about 11 percent of GDP.

Mr. LUCAS. Thank you, Doctor.

The Chair now recognizes Dr. Bradbury for your testimony.

STATEMENT OF DR. STEVEN BRADBURY, DIRECTOR, OFFICE OF PESTICIDE PROGRAMS, U.S. ENVIRONMENTAL PROTECTION AGENCY

Dr. BRADBURY. Good morning Chairman Hastings, Chairman Lucas and Ranking Member Markey and Ranking Member Peterson as well as the members of the Committees.

I am pleased to appear before you today to discuss how EPA regulates pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act and the steps EPA is taking to protect our nation's threatened and endangered species under the Endangered Species Act.

EPA's Office of Pesticide Programs is charged with administering FIFRA, which permits the registration of pesticides that are sold or distributed in the U.S. so long as the pesticide's use does not cause unreasonable adverse effects on the environment.

When used properly, pesticides provide significant benefits to society, such as controlling disease-causing organisms, protecting the environment from invasive species, and fostering a safe and abundant food supply. FIFRA requires EPA to weigh these types of benefits against the potential harm to the environment that may result from using a pesticide. EPA has the authority to restrict the way a pesticide may be used to lower its risks. And EPA may allow the use of a pesticide only if the benefits outweigh the remaining risks.

Over the last 30 years, EPA has developed a well regarded program for evaluating pesticide safety and making regulatory decisions. EPA's regulatory processes are transparent and provide for multiple opportunities for the public to review our work, provide comments before we make decisions. EPA's high-quality risk assessments use the best available peer reviewed scientific data and models to estimate potential risks to human health, to look at the fate of pesticides in aquatic and terrestrial environments and to look at the risk to broad categories of wildlife and plants.

When we encounter significant scientific challenges, we turn to the FIFRA Advisory Panel, which is a Federal advisory committee for independent, scientific peer review. Pesticide regulatory actions are also subject to the ESA, which requires all Federal agencies to ensure that their actions are not likely to jeopardize threatened or endangered species or destroy or adversely modify their critical habitat.

We believe FIFRA provides the agency with the authority to protect endangered species consistent with the directives of ESA. As part of a thorough ecological risk assessments, EPA determines whether the use of a pesticide may affect an endangered or threatened species and any designated critical habitat.

Under the current ESA regulations, EPA consults with the Services if a potential effect is identified and the Services produce a biological opinion with their view of whether a pesticide's registered use is likely to jeopardize the species or destroy or modify critical habitat.

As a result of an EPA risk assessment or formal consultation with the Services, EPA may change the pesticide's use instructions and conditions that are specified on the product's labeling. EPA has the authority to tailor any necessary restrictions to specific geographic areas rather than nationwide.

EPA has been sued under the ESA more than a dozen times over the past ten years, challenging the registration of hundreds of pesticides. While many of these cases were dismissed, several required EPA to make effects determinations for numerous pesticides and species, and as appropriate to consult with the Services.

Both EPA and the Services are working with the Department of Justice on new litigation which could significantly impact pesticide registration actions generally and the development and implementation of biological opinions for the affected pesticides.

Developing an ESA program for pesticides has presented many challenges, both scientific and procedural. In March 2011, on behalf of the Departments of Agriculture, Commerce, and Interior, EPA requested that the National Academy of Sciences convene a committee of independent experts to review a suite of very difficult, cutting edge scientific and technical issues that have arisen as a result of our collective responsibilities under the ESA and FIFRA.

EPA has long recognized that along with using the best available science, enhancing the transparency of our processes and providing meaningful opportunities for public participation are critical for the success of our Endangered Species Protection Program. EPA is committed to ensuring that every step of the ESA process provides opportunity for public participation so that all stakeholders can understand the basis of our actions and provide information to help improve risk assessments and risk management decisions.

In conclusion, EPA's pesticide program is committed to fulfilling our ESA obligations without unduly burdening the production of food and fiber products for this country. We are committed to working with our Federal partners to build a more efficient ESA consultation process that is grounded in the best available peer reviewed science, that produces timely, consistent, and transparent regulatory decisions and that provide for meaningful public participation opportunities.

I am happy to answer your questions today. However, there may be issues where I will have to refrain from commenting because the government is actively engaged in litigation. And with that understanding, I will make every effort to be as forthcoming as I can in response to your questions. Thank you.

[The prepared statement of Dr. Bradbury follows:]

**Statement of Dr. Steven Bradbury, Director, Office of Pesticide Programs,
U.S. Environmental Protection Agency**

Introduction

Good morning Chairman Lucas and Chairman Hastings, as well as other Members of the Agriculture and Natural Resources Committees. My name is Steven Bradbury. I have worked at the Environmental Protection Agency (EPA) in various positions since 1985, serving as the Director of the Mid-Continent Ecology Division in EPA's Office of Research and Development, Director of the pesticide ecological risk assessment division, and as Director of the division responsible for evaluating existing pesticides. I currently serve as the Director of the Office of Pesticide Programs. I am pleased to appear before you today to discuss how EPA regulates pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and

the steps EPA is taking to protect our nation's threatened and endangered species and their critical habitats under the Endangered Species Act (ESA). I will begin by describing our commitment to protecting the environment and how the principles of science and transparency are integral to EPA's program for regulating pesticides.

EPA's Program for Regulating Pesticides

EPA's Office of Pesticide Programs is charged with administering FIFRA, under which we must ensure that use of a pesticide does not cause "unreasonable adverse effects on the environment." FIFRA generally requires that, before any pesticide may be sold or distributed in the United States, EPA must license its sale through a process called "registration." During registration, EPA examines every pesticide product to ensure that it can be used in a manner consistent with the FIFRA standard.

FIFRA also requires EPA to re-evaluate previously registered pesticides against contemporary scientific and safety standards. Under EPA's registration review program, all registered pesticides are re-evaluated at least every 15 years to ensure that products continue to meet FIFRA's safety standards and that they are being lawfully marketed in our country. Of course, EPA can at any time take regulatory action to address newly identified risks.

When used properly, pesticides provide significant benefits to society, such as controlling disease-causing organisms, protecting the environment from invasive species, and fostering a safe and abundant food supply. FIFRA's safety standard requires EPA to weigh these types of benefits against any potential harm to human health and the environment that might result from using a pesticide.

Over the last 30 years, EPA has developed a well-regarded program for evaluating pesticide safety and making regulatory decisions. EPA's high quality risk assessments consider the best available scientific data from a variety of sources, including from pesticide companies, other governments, or the published literature. EPA regulations require a rigorous battery of tests in order to gain approval for a pesticide, and these data requirements provide consistency across the EPA's risk assessments. A typical new agricultural pesticide must undergo over 100 different tests to characterize its potential risks. This data set provides, among other things: detailed information on where and how the pesticide will be used; a full battery of human health toxicity studies; data on the fate of the pesticide in the aquatic and terrestrial environments; and a suite of toxicity studies representing broad categories of wildlife and plants—birds, mammals, fish, terrestrial and aquatic plants, algae, insects, and other invertebrates. EPA has a public, well documented set of procedures that it applies to the use and significance accorded to all data utilized in regulatory decisions. Data generated in response to FIFRA requirements are conducted under, and the results evaluated in accordance with, a series of internationally recognized and harmonized scientifically peer-reviewed study protocols designed to maintain a high standard of scientific quality and reproducibility. Therefore, these data provide a high level of confidence that the observed effects are reliably associated with exposure to the particular pesticide in question.

EPA is committed to consideration of other sources of data as well, including information submitted by the public as part of the regulatory docket of a Federal action under FIFRA, and data identified from the publicly available literature. In making the decision as to whether and how such data are incorporated into an ecological risk assessment EPA reviews the test methods employed and the conditions under which studies were conducted to assure a standard of scientific quality and reproducibility necessary to ensure confidence that the observed effects are reliably the manifestation of exposure to the particular pesticide in question.

EPA uses data and models to conservatively estimate how much pesticide will remain in the environment after use and how those levels compare with levels that could harm humans or the environment. EPA uses public, externally peer-reviewed procedures to analyze data and models to produce its science-based risk assessments that guide our risk management decisions. EPA reaches its conclusions through a scientific, systematic, objective evaluation of relevant information that uses transparent, documented procedures at each step.

EPA has authority to restrict the way a pesticide may be used to ensure that it meets statutory safety standards. Any restrictions on the use of a pesticide identified through registration or registration review as necessary for safe use appear on product labels. Examples of restrictions include reducing application frequency or rates, prohibiting certain application methods, establishing no-spray buffer zones around sensitive areas and water bodies, limiting use only to trained and certified applicators, or other restrictions. Our regulatory partners, i.e., the state agencies, have the lead for enforcing proper use of pesticides.

If an EPA assessment identifies a risk of concern for a pesticide, pesticide registrants (i.e., manufacturers) will often agree to mitigate the potential risk by making appropriate changes to the way their pesticides may be used. If, however, companies do not voluntarily adopt risk mitigation measures, EPA must pursue administrative procedures to compel the changes. The process, referred to as “cancellation,” starts with an independent, external, scientific peer review of the proposed regulatory restrictions by the FIFRA Scientific Advisory Panel, together with review by the U.S. Department of Agriculture (USDA) and the Department of Health and Human Services (HHS). If requested by a registrant, EPA must then conduct a formal adjudicatory hearing—an administrative trial with witnesses and testimony before an Administrative Law Judge (ALJ). Under FIFRA, registrants may ask the ALJ to refer questions of scientific fact to the National Academy of Sciences (NAS). Because the cancellation proceeding can be lengthy (often lasting three or more years before EPA reaches a final decision), FIFRA also authorizes EPA to suspend pesticide sale and use when needed to address an “imminent hazard.”

Pesticides and Endangered Species

Certain pesticide regulatory actions may also be subject to the requirements of the ESA. The ESA is administered by the U.S. Fish and Wildlife Service (FWS) and the National Oceanic and Atmospheric Administration's (NOAA) Fisheries Service (jointly referred to as the “Services”). The ESA requires all Federal agencies, in consultation with the Services, to ensure that their actions are not likely to jeopardize species listed as either threatened or endangered (“listed species”) or to destroy or adversely modify the critical habitat of listed species.

EPA is committed under FIFRA to protecting endangered and threatened species from adverse effects of pesticides. EPA evaluates extensive toxicity and ecological effects data in order to estimate potential risks to birds, fish, invertebrates, mammals, and plants from the use of the pesticide. Approximately 75 FTE and \$2 million in contract dollars are devoted to ecological risk assessments annually.

Because endangered species may need special protections, EPA has developed risk assessment procedures to determine whether a pesticide has the potential to harm individual threatened or endangered animals or plants. EPA provides to the public information about these risk assessment procedures on our website.

EPA has determined in a number of well documented instances that additional restrictions are necessary to address risks to endangered and threatened species and other nontarget species.

- **DDT.** A well known example is the cancelled pesticide DDT, which acted as a reproductive toxicant for certain birds species contributing to their decline, most notably certain raptor species such as Bald Eagles and the Peregrine Falcon. EPA took strong action and cancelled DDT in the U.S. in 1972, and subsequently it was banned for agricultural use worldwide, although limited disease vector control use continues. The EPA's cancellation of DDT and the enactment of the ESA are cited as a major reason for the comeback of Bald Eagle populations.
- **Fenthion.** The use of the avicide fenthion to control pest birds in urban, industrial, and agricultural settings, resulted in secondary poisonings of predatory birds (hawks, owls, falcons) after they consumed poisoned pest birds, such as starlings. The avicide product was cancelled on March 1, 1999.
- **Azinphos methyl.** Use of azinphos methyl poses risks to aquatic ecosystems. EPA has phased out registrations of azinphos methyl products, with the last remaining uses scheduled to end by September 2012.

As part of a thorough ecological risk assessment, EPA makes an “effects determination” regarding whether the use of a pesticide “may affect” or will have “no effect” on a listed species and any designated critical habitat for the species. If EPA determines that the pesticide “may affect” individual organisms in a species, EPA further characterizes whether the use of the pesticide is “likely to adversely affect” or “not likely to adversely affect” the species. Under the current ESA regulations, EPA must consult with the Services regarding any pesticide action that EPA finds may affect listed species or designated critical habitat. EPA can engage the Services in an informal consultation when EPA determines as a result of its risk assessment conclusions that a pesticide's use “may affect, but is not likely to adversely affect” a listed species. The result of this informal process is typically a letter of concurrence or non-concurrence from the Services, with EPA's determination.

If EPA determines that a pesticide “may affect and is likely to adversely affect” a listed species, or if a Service does not concur with EPA's determination that a pesticide's registered use is “not likely to adversely affect” a species, EPA must engage in formal consultation with the appropriate Service(s). During formal consultation (as described under the Services' ESA regulations at 50 CFR part 402, Subpart B),

EPA provides the Services with its detailed assessment of potential risks and its effects determination. Under the ESA the Services are required to produce a final Biological Opinion within 135 days after initiation of the formal consultation procedure unless the Service and action agency agree to an extension. A Service's Biological Opinion provides the Service's view of whether a pesticide's registration is likely to jeopardize the continued existence of the species or destroy or adversely modify its critical habitat and, if so, describes Reasonable and Prudent Alternatives (RPA) to avoid jeopardy or destruction or adverse modification of critical habitat. The Services also exempt any otherwise prohibited take of a species, once an alternative is identified to avoid jeopardizing that species "reasonable and prudent measures" (RPM) to minimize the impact of the take.

As a result of an EPA risk assessment or formal consultation with the Services, EPA may determine that a pesticide's registration should be altered to ensure use of a pesticide will not likely jeopardize the continued existence of a listed species. In such cases, EPA may require changes to the use conditions specified on the labeling of the product. Often such changes are necessary only in specific geographic areas (rather than nationwide) to ensure protection of the listed species. In those cases, EPA will implement protections through geographically-specific Endangered Species Protection Bulletins, which by reference on the pesticide product's label become enforceable use limitations for that product within that geographic area. These Endangered Species Protection Bulletins will be developed and provided to pesticide users through a web-based application called "Bulletins Live!" that was developed with the assistance of the U.S. Geological Survey.

ESA Litigation

Litigation has been brought against EPA under the ESA more than a dozen times over the past 10 years challenging the registration of hundreds of EPA registered pesticides on hundreds of listed species because EPA and the Services have not completed consultation. Nearly all of these lawsuits challenged EPA's failure to consult with the Services on the effects of particular pesticides on listed species. Many of these cases were dismissed, but several resulted in court orders, consent decrees, or settlement agreements that imposed a schedule under which EPA must make effects determinations for numerous pesticides and species, and, as appropriate, to consult with FWS or NOAA.

Several of these cases also resulted in interim injunctive relief during the pendency of those effects determinations and consultations. Typically, the injunctive relief put in place "no-use" buffer zones around waterbodies or other habitat that could contain threatened or endangered species until the Services and EPA completed the ESA consultation process.

These matters are summarized as follows:

- *Californians for Alternatives to Toxics v. EPA*, No. COO-3150 (N.D. Cal.). The September 2002 consent decree set forth a schedule for effects determinations (and consultation, as appropriate) regarding the effects of 18 pesticides on 33 listed species in California.
- *Washington Toxics Coalition v. EPA*, No. C01-0132 (W.D. Wash.). A series of court orders from 2002-2004 required EPA to make effects determinations (and consult, as appropriate) on 54 pesticides on 26 listed salmonid species and imposed interim injunctive relief.
- *Center for Biological Diversity v. Johnson*, No. 04-cv-00126 (D.D.C.). The August 2005 settlement agreement set forth a schedule for effects determinations (and consultation, as appropriate) regarding the effects of six pesticides to one listed species, the Barton Springs salamander.
- *Natural Resources Defense Council v. EPA*, No. 03-CV-02444 (D. MD). The March 2006 settlement agreement set forth a schedule for determinations (and consultation, as appropriate) regarding the effects of atrazine on approximately 20 listed species.
- *Center for Biological Diversity v. Johnson*, No. 02-1580 (N.D. Cal.). Following district court finding on liability, parties agreed to stipulated injunction in October 2006 setting forth schedule for effects determinations (and consultation, as appropriate) regarding the effects of 66 pesticides on the California red-legged frog and providing for interim injunctive relief.
- *Center for Biological Diversity v. EPA*, No. C07-02794 (N.D. Cal.). The May 2010 stipulated injunction set forth a schedule for effects determinations (and consultation, as appropriate) regarding the effects of 75 pesticides on 11 species in Northern California and provided for interim injunctive relief that included use limitations.

Pursuant to these settlements and orders, EPA has prepared ESA assessments for various pesticides and species and has transmitted over 170 consultation requests

to the Services. Over the last decade, preparation of these ESA assessments has required a very significant level of effort from EPA's pesticide program staff. For example, in 2010 alone, EPA expended nearly \$4.5 million in contract funds and staff salary to meet these court ordered or monitored schedules for developing effects determinations for 13 species in California and carrying out work to refine measures recommended by NOAA in two Biological Opinions.

Where EPA determined the use of the pesticide may affect a listed species, EPA requested ESA consultation. To date, EPA has received three Biological Opinions from NOAA completing consultation on the effects of 18 pesticides on threatened and endangered salmonid species in Washington, Idaho, Oregon, and California. Recently EPA received a draft of a fourth Biological Opinion, also addressing listed salmonids in the Northwest, that when final will conclude another six pesticide consultations.

In addition to the litigation noted above, EPA, NOAA, and FWS are currently engaged in three significant cases that potentially could have broad ramifications for the future of the Federal government's ESA compliance efforts on FIFRA pesticide regulatory actions. On January 19 of this year, EPA was sued by the Center for Biological Diversity under the ESA regarding EPA's alleged failure to consult with the Services on the potential effects of more than 300 pesticides and approximately 200 listed species nationwide. The scope of the consultations at issue in this lawsuit, by itself, is many times larger than those addressed in all of the previous cases combined. The potential implications of this case for EPA Office of Pesticide Program resources and its pesticide Registration Review program generally are considerable. The case is currently stayed so that the parties and others can discuss how a case of this magnitude might proceed.

The other two cases, *Dow AgroSciences v. NMFS* (pending in the U.S. District Court for the District of Maryland) and *Northwest Center for Alternatives to Pesticides (NCAP) v. EPA* (pending in the Western District of Washington), involve challenges related to the first two of NOAA's recent Biological Opinions on pesticide actions that stem from the consultations on listed salmonids ordered in the *Washington Toxics Coalition* litigation, outlined above. In *Dow AgroSciences*, plaintiffs argue that NOAA's scientific conclusions in the first of those Biological Opinions were arbitrary and capricious, that NOAA failed to rely on the best available data as required by their own regulations, and that NOAA failed to comply with statutory and regulatory procedural requirements in issuing its opinions. Recently the 4th Circuit ruled that this matter is subject to judicial review in U.S. District Court. In the *NCAP* case, several non-governmental organizations assert EPA violations of the ESA for allegedly failing to implement NOAA's first two salmonid Biological Opinions.

Both EPA and the Services are working in close coordination with the Department of Justice in addressing this pending litigation. Obviously, these cases have the potential to have a significant impact on pesticide registration actions generally and the development and implementation of Biological Opinions for the affected pesticides.

Improving the Consultation Process

In EPA's view, a more efficient and effective consultation process should include the following attributes:

- The FIFRA risk assessment process and the development of Biological Opinions would rely on best available information and peer-reviewed scientific procedures and models would be developed to evaluate and estimate the potential effects on listed species resulting from the use of a pesticide and to determine what measures would provide adequate protections;
- The risk assessment, consultation, and risk management processes is transparent and provide meaningful opportunities for public participation so that the public understands the basis for proposed and final actions and can provide information to help improve risk assessments and risk management decisions;
- The risk management process would employ risk mitigation measures that are adequate to protect listed species, and are tailored to specific uses and applicable to specific geographic areas based on species location and biological information to minimize the burdens on pesticide users. Risk mitigation measures necessary for the protection of listed species would be reasonable and clearly communicated to pesticide users; and
- In order to make the best use of agencies' and stakeholders' resources, and to provide protections where and when needed, the risk assessment, consultation, and risk management processes operate in a consistent, efficient, and timely fashion.

Addressing Scientific Issues. As I indicated above, EPA and the Services have been addressing the myriad difficult scientific issues involved in evaluating whether and how pesticides may affect listed species. To this end, in 2009 the three agencies formed a work group of technical experts from EPA's Office of Water and Office of Pesticide Programs and their counterparts from FWS and NOAA. As charged by the senior management in the three agencies, the workgroup has to date, identified and resolved some key issues that arise in no small part due to the different statutory schemes and regulatory frameworks of the various agencies that are not easily reconciled. For example, under FIFRA, EPA is required to weigh the benefits of use against the risks while under the ESA, Federal agencies are required to ensure that their actions are not likely to jeopardize the continued existence of any listed species.

In March 2011, on behalf of the Departments of Agriculture, Commerce, and Interior, EPA requested that NAS convene a committee of independent experts to review scientific and technical issues that have arisen as a result of our collective responsibilities under the ESA and FIFRA. The recent experience of completing consultations under the ESA for FIFRA related actions affecting Pacific salmon has illustrated a number of scientific issues. The scientific and technical topics on which we seek advice pertain to the approaches utilized by EPA and the Services in assessing the effects of proposed FIFRA actions on endangered species and their habitats. These topics include the identification of best available scientific data and information; consideration of sub-lethal, indirect, and cumulative effects; the effects of chemical mixtures and inert ingredients; the use of models to assist in analyzing the effects of pesticide use; incorporating uncertainties into the evaluations effectively; and the identification of pertinent geospatial information and biological and other datasets that can be employed in the course of these assessments. To provide for the review, EPA and the Services will provide EPA's risk assessments and NOAA's Biological Opinions to the NAS as examples of the different scientific approaches. The issues before the NAS are scientifically complex and of high importance. A concerted, closely coordinated effort to address them openly and actively will assist in the proper execution of the statutory responsibilities under the ESA, FIFRA, and other applicable laws.

The Executive Branch is in the early stages of formulating the specific charge to the NAS panel. Based upon preliminary discussions with the NAS, we believe that the external review could be completed in 18 months, once the panel is convened.

Transparency and Public Participation. The Administration has made transparency a priority to promote accountability and provide information for citizens about what their Government is doing. ESA section 7 consultation is not subject to notice and comment procedures by law. Nonetheless, EPA is, along with using the best available science, enhancing the transparency of our processes and providing meaningful opportunities for public participation are critical for the success of pesticide program.

Accordingly, through our pesticide registration review web site and our endangered species protection web site, EPA has provided the public with access to our assessments and effects determinations, draft biological opinions we have received, our comments on those opinions, and final opinions from the services whether this work was conducted pursuant to litigation or as a matter of course in our registration review program. This input has served to improve our work.

It is through our endangered species web site as well that EPA provides general information about the status of consultations and expected dates for receipt of Draft Biological Opinions; makes available such Drafts; and solicits public input on the recommendations contained in those Draft opinions. EPA then considers such input in our responses to the Services regarding their Draft documents.

As noted above, EPA is focusing its ESA compliance resources primarily on its registration review program. As EPA conducts the statutorily mandated reevaluation of a previously registered pesticide, we will perform an ESA assessment of all uses of the pesticide, and, as necessary, initiate consultation with the Services. Using the registration review program provides an established framework. EPA's Pesticides Program incorporates public participation as an integral part of its existing processes of registration and registration review. The registration review process generally encompasses three opportunities for public comment that may include input and information relative to the ecological risk assessments and endangered species effects determinations developed as a matter of course, to support registration review. First EPA opens a public docket which contains EPA's plan on how it will proceed with a particular pesticide. As part of this docket, EPA develops and publishes a problem formulation that articulates the scientific work that will be conducted, including any work relative to listed species. The second stage of registration review results in publication of a draft risk assessment that would include

EPA's analyses relative to all non-target species including listed species. Subsequently a final risk assessment and proposed registration review decision are published. This decision may contain mitigation EPA believes is necessary to ensure that the risks of continued registration outweigh the benefits—the FIFRA standard for ecological effects, as well as any mitigation EPA proposes is necessary for the specific protection of listed species. Finally, the EPA will publish its final registration review decision. At each of the three steps prior to the final decision, EPA solicits public input. That input is reviewed and analyzed and a response to comment document is developed and issued along with the products in the next phase so that the public may see how their input was considered.

Tailoring risk mitigation measures. Our website also provides a portal to the application called “Bulletins Live!” which is the system developed with the assistance of the US Geological Survey, to provide Endangered Species Protection Bulletins to pesticide users. When changes to a pesticide’s use are necessary to protect a listed species, the pesticide label will carry a generic statement that refers the user to our Bulletins Live! web site for information on how to use the pesticide in their geographic area. The generic label statement also will contain a toll free phone number that people can use to request information on use limitations and have an Endangered Species Protection Bulletin mailed to them, in the event they do not have internet access. As noted earlier, these Bulletins set geographically specific pesticide use limitations for the protection of endangered or threatened species and their designated critical habitat where such limitations on use of a pesticide have been determined to be necessary. The Bulletins contain a map of the selected county, a description of the species being protected, pesticide(s) of concern, pesticide use limitations, and the month for which the Bulletin is valid. EPA and the U.S. Geological Survey are currently developing a more interactive, geo-coded platform to provide this information, which will make it easier to be more geographically specific in terms of where pesticide use may need to be limited in some manner to protect listed species.

While EPA is moving ahead to develop improved tools to communicate geographically specific information, this information will be only as specific and focused as permitted by the species location data and biological information available deemed reliable from the Services. Currently, such information and data are not available in geospatial layers for the more than 1,200 listed species across the nation.

Efficiency, Consistency, and Timeliness. ESA consultations and implementation of protections for threatened and endangered species need to be done in a consistent, timely, and predictable manner. Our efficiency will improve significantly once all agencies follow the same durable, accepted scientific methodology for performing ESA assessments, an outcome EPA hopes will be achieved using the recommendations from the National Academies report and with ongoing conversations between EPA, FWS, and NOAA. Measures, such as internal peer review and quality control programs—also will help produce consistent outcomes across different assessors. We need to set and hold ourselves to schedules for conducting assessments, completing consultations, and making decisions about implementation of protection measures. We need to plan and allocate resources to achieve the level of timeliness our external stakeholders expect. And recognizing the enormity of the consultation effort that lies ahead, we need to be as efficient as absolutely possible. Among other things, this will mean using data about species location and biology, that will enable assessors to perform spatially and temporally explicit assessments. EPA is committed to achieving these ends.

Conclusion

EPA’s pesticide program is a highly regarded program that makes more than 10,000 regulatory decisions a year, including evaluating approximately 20 new pesticide active ingredients and reevaluating 70 previously approved pesticides annually, as well as reviewing thousands of proposed changes to existing products, among other statutorily mandated decisions. Fulfilling our ESA obligations and meeting our other legal responsibilities will require careful management of our resources, and wise setting of priorities. Conducting ESA assessments for currently registered pesticides and implementing Biological Opinions from the Services will continue to require very significant expenditures of staff and contract resources. We must find ways to make the consultation process more efficient, and streamlining reviews. We should, to the greatest extent possible, strive to avoid duplicating work.

I am pleased that the senior leadership of all three agencies recognizes the importance of compliance with the ESA, and the need for fundamental change in how we have operated in the past. Although it will not be easy, by incorporating guidance from the NAS on the critical scientific issues, we can further develop a consultation process that is grounded in the best available science, that is transparent and

participatory, and that produces timely and consistent regulatory decisions which fully protect threatened and endangered species without unduly burdening the ability to produce food and fiber products for this country.

[NOTE: The responses to questions submitted for the record by the Administration can be found on page 23.]

Mr. LUCAS. Thank you. And the Chair now recognizes Dr. Gould for your testimony.

STATEMENT OF DR. ROWAN GOULD, ACTING DIRECTOR, FISH AND WILDLIFE SERVICE, U.S. DEPARTMENT OF THE INTERIOR

Dr. GOULD. Good morning Chairman Hastings and Chairman Lucas. Thank you for the opportunity to testify on behalf of the Service.

The focus of my testimony will be on the Service's role on consulting with the Environmental Protection Agency as required under Section 7 of the Endangered Species Act, the significant challenges we face in addressing this requirement and our commitment to continue working with our Federal partners on EPA's actions under FIFRA.

The ESA and FIFRA have different, but complementary purposes and the statutes create a set of obligations for the EPA, Services, and the National Marine Fisheries Service. The purpose of the ESA is to provide a means for conserving the ecosystems upon which endangered and threatened species depend and a program for the conservation of such species.

The ESA directs all Federal agencies to participate in conserving these species, specifically, § 7(a)(1) of the ESA charges Federal agencies to aid in the conservation of listed species and § 7(a)(2) requires the agencies, through consultation with the Service to ensure that their activities are not likely to jeopardize the continued existence of listed species or adversely modify designated critical habitats.

One of the Service's roles in carrying out its responsibilities under the Endangered Species Act is to advise Federal agencies on the conservation needs of endangered and threatened species. In order to fulfill that role, the Service requires specific information from Federal agencies that describes the nature and extent of the proposed action, the area to be affected by the proposed action, a description of any listed species or critical habitat that may be affected, a description of the manner in which these species may be affected, and any other relevant reports, including any environment impact statement, environmental assessment or biological assessment.

With that information in hand, the Service conducts its assessment of whether the proposed action, when combined with the current status of the species and any cumulative effects is likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat.

The Service's assessment is relayed to the Federal agency on a document called The Biological Opinion. It is this Biological Opinion upon which Federal agencies, such as EPA rely in fulfilling their responsibility to ensure their actions are not likely to jeopardize the continued existence of any listed species or result in destruction or adverse modification of critical habitat.

The Section 7 consultation provisions of the ESA are not commonly applied to discrete Federal actions that have a limited, temporal, and geographic scope, such as approval of a grazing permit or a lease or a construction project. The Service conducts thousands of such consultations each year and these consultations play an important role in promoting the conservation of an endangered and threatened species.

EPA's pesticide registration actions are very different in that they typically cover large geographic areas are in effect for a lengthy period of time, typically up to 15 years and provide data on toxicity to standardized test species and extrapolate that information to potential effect on listed species. These differences create key scientific and technical issues that must be resolved.

Another important challenge is how to provide for effective involvement of registrants and stakeholders in the consultation process so that measures directed at conserving listed species will have minimal impacts to food and fiber commodity production.

Over the past year, the Service, NOAA, and EPA have been working cooperatively through an interagency working group to address the scientific issues and we expect the group to continue its efforts. Recently, the working group and USDA have agreed to contract with the National Academy of Sciences National Research Council to help clarify these issues. The Service also believes that we must take full advantage of the knowledge of pesticide registrants and other stakeholders to help refine the assessment of effects on listed species.

The Service is committed to working with EPA, NOAA, and USDA to establish an efficient process that satisfies EPA's obligations under FIFRA and provides a means for the conservation of threatened and endangered species required under the ESA, while minimizing the impact to affected pesticide users and applicators.

I appreciate the opportunity to testify today and will be happy to answer any questions. Thank you.

[The prepared statement of Dr. Gould follows:]

**Statement of Rowan Gould, Acting Director, Fish and Wildlife Service,
U.S. Department of the Interior**

Good morning Chairman Hastings and Chairman Lucas. I am Rowan Gould, Acting Director for the U.S. Fish and Wildlife Service (Service). Thank you for the opportunity to testify on behalf of the Service. The focus of my testimony will be on: the Service's role of consulting with the Environmental Protection Agency (EPA), as required by Section 7 of the Endangered Species Act of 1973 (ESA); the significant challenges we face in addressing this requirement; and our commitment to continue working with our Federal partners on EPA's actions under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

The ESA and FIFRA have different but complementary purposes and the statutes create a set of obligations for the EPA, Service, and the National Marine Fisheries Service (NOAA-Fisheries).

SERVICE'S ROLE

The purposes of the ESA are to provide a means for conserving the ecosystems upon which endangered and threatened species depend and a program for the conservation of such species. The ESA directs all Federal agencies to participate in conserving these species. Specifically, section 7(a)(1) of the ESA charges Federal agencies to aid in the conservation of listed species, and section 7(a)(2) requires the agencies, through consultation with the Service, to ensure that their activities are not likely to jeopardize the continued existence of listed species or adversely modify designated critical habitats.

One of the Service's roles in carrying out its responsibilities under the Endangered Species Act is to advise Federal agencies on the conservation needs of endangered and threatened species. In order to fulfill that role, the Service requires specific information from Federal agencies that describes the nature and extent of the proposed action, the area to be affected by the proposed action, a description of any listed species or critical habitat that may be affected, a description of the manner in which those species may be affected, and any other relevant reports including any environmental impact statement, environmental assessment, or biological assessment. With that information in hand, the Service conducts its assessment of whether the proposed action, when combined with the current status of the species, and any cumulative effects, is likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The Service's assessment is relayed to the Federal agency in a document called a "Biological Opinion." It is this biological opinion upon which Federal agencies such as EPA rely in fulfilling their responsibility to insure their actions are not likely to jeopardize the continued existence of any listed species or result in destruction or adverse modification of critical habitat.

CHALLENGES

The section 7 consultation provisions of the ESA are most commonly applied to discrete Federal actions that have a limited temporal and geographic scope—such as approval of a grazing permit/lease or a construction project. The Service conducts thousands of such consultations each year and these consultations play an important role in promoting the conservation of endangered and threatened species. EPA's pesticide registration actions are very different in that they typically cover large geographic areas (sometimes the entire nation), are in effect for a lengthy period of time (typically up to 15 years, and provide data on toxicity to standardized test species and extrapolate that information to potential effects to listed species. These differences create key scientific and technical issues that must be resolved. Some of these key issues include:

- How to extrapolate toxicity data from standardized test organisms to effects on listed species;
- How sub-lethal effects to individuals cascade to effects on populations and species;
- How the toxicity of the active ingredient relates to the toxicity of the product as applied and combined with other registered products;
- How to manage uncertainty, and
- How to use historical agricultural production and pesticide use data when assessing risks over the 15 year duration of a registration decision.

Another important challenge is how to provide for effective involvement of registrants and stakeholders in the consultation process so that measures directed at conserving listed species will have minimal impacts to food and fiber commodity production.

PATH FORWARD

Over the past year, the Service, NOAA, and EPA have been working cooperatively through an interagency working group to address these scientific issues and we expect that group to continue its efforts. Recently, the working group and USDA also agreed to contract with the National Academy of Sciences' National Research Council to help clarify these issues. The Service also believes that we must take full advantage of the knowledge of pesticide registrants and other stakeholders to help refine the assessment of effects to listed species. There are numerous opportunities within the consultation process to incorporate such information including when EPA is preparing its risk assessment, when the Service is beginning preparation of its biological opinion, when the Service has developed its draft biological opinion, and when reasonable and prudent alternatives or reasonable and prudent measures are being developed by the Service and EPA.

COMMITMENT

The Service is committed to working with EPA, NOAA, and USDA to establish an efficient process that satisfies EPA's obligations under FIFRA and provides a means for the conservation of threatened and endangered species required under the ESA, while minimizing the impact to persons engaged in agricultural food and fiber commodity production and other affected pesticide users and applicators.

CONCLUSION

The Service appreciates the leadership, and the interest and efforts of both Committees in supporting the conservation of the nation's fish and wildlife resources. I

appreciate the opportunity to testify today and would be happy to answer any questions.

[NOTE: The responses to questions submitted for the record by the Administration can be found on page 23.]

Mr. LUCAS. Thank you. The Chair now recognizes Mr. Schwaab for your testimony.

STATEMENT OF MR. ERIC SCHWAAB, ASSISTANT ADMINISTRATOR FOR FISHERIES, NATIONAL MARINE FISHERIES SERVICE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, U.S. DEPARTMENT OF COMMERCE

Mr. SCHWAAB. Good morning Chairman Lucas, Chairman Hastings, Ranking Members Markey and Peterson, members of the Committees. Thank you for the opportunity to testify today.

Section 7 of the Endangered Species Act requires Federal agencies to consult with the National Marine Fisheries Service or the Fish and Wildlife Service on any action they authorize, fund, or carry out that could have an impact on endangered or threatened species or their critical habitats. The EPA's registration of pesticides pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act is a Federal authorization that requires ESA Section 7 consultations.

In 2008, following litigation and pursuant to a settlement agreement, EPA and the National Marine Fisheries Service began consulting on the effects of 37 pesticides on threatened and endangered Pacific salmon. Pacific salmon are a valuable economic resource and an icon of the Pacific Northwest and California.

So far, we have issued three final biological opinions related to this settlement agreement. The first biological opinion in 2008 analyzed the effects of three pesticides. Of the 37 pesticides that NMFS is scheduled to consult on with EPA under the settlement agreement, these three present the greatest risk to threatened and endangered species of salmon.

In our 2008 biological opinion we recommended risk reduction measures to reduce exposure of listed salmon to these pesticides from field runoff and drift. In 2009 and 2010, we issued two additional biological opinions covering 18 pesticides and are finalizing a draft biological opinion on 6 more pesticides for June of this year. We must complete consultation on the remaining pesticides by April 30, 2012.

We recognize that other stakeholders are affected by the implementation of our biological opinions. Throughout the consultation process, we and the EPA have sought and continue to seek input from affected pesticide registrants. Before the resulting biological opinion is finalized, EPA also provides an opportunity for public comment on the draft, reasonable and prudent alternatives presented in the biological opinions.

In an effort to enhance public awareness, we have hosted stakeholder forums in Portland, Oregon and Sacramento, California to explain the consultation process. Additionally, the Fisheries Service, EPA, and the Fish and Wildlife Service are convening a workshop with the Minor Crop Farmer Alliance on pesticide registration review and ESA consultations to inform grower representatives of

the processes and analyses used by our agencies to identify risk and mitigation options. This forum will also be used to identify grower level data that could enhance the risk identification and risk mitigation decision process.

We recognize the complexity of integrating the conservation of endangered species into the administration of FIFRA. To address this challenge, EPA, NOAA, and the Fish and Wildlife Service have formed an interagency workgroup of senior policy leaders to address core, scientific issues underlying this integration. EPA, NOAA, USDA, and the Fish and Wildlife Service have also asked the National Academy of Sciences to convene a panel to provide its expert advice on certain core, scientific, and technical issues that serve as the foundation for assessing risks to listed species.

Seeking independent advice on certain scientific issues will help improve the scientific and technical foundations of the registration process and ESA consultation processes. Enhanced consistency and approaches to these issues within the involved agencies will expand the public understanding of the scientific methods and approaches and their underlying rationale.

We have requested the National Research Council of the National Academy of Sciences to provide us with advice on the following topics: best available scientific data and information, sublethal, indirect and cumulative effects, mixtures and ingredients, risk and exposure modeling, interpretation of uncertainty, and geospatial information and data sets. We have developed terms of reference for this review and are currently working with the Academy to convene a panel and proceed with this important work. We expect to receive the panel's recommendations and report within 18 months.

The interagency workgroup is also exploring the potential utility of additional data and modeling capabilities in future consultations. Specifically, it will examine the capability of the Agriculture Research Service and the Natural Resources Conservation Service to refine projections of pesticide and herbicide uses and potential environmental and aquatic exposures. It will also undertake parallel work with relevant state pesticide programs to further refine the information utilized in the consultation process.

Finally, it will explore the possibility of expanding USGS water quality monitoring programs and modeling capability to help refine projection of exposures likely to occur of the 15-year life of a registration.

Finally, NMFS, Fish and Wildlife Service, and EPA recognize the importance of expanding the opportunities for public participation in the consultation process. We will pursue expanded opportunities to participate in the consultation processes to registrants, the affected states, farming organizations, and other interested parties. We will solicit recommendations on improving access to scientific information, monitoring data and other information pertinent to the ESA consultation issues up front in the early preparation of biological assessments by EPA and over the course of the preparation of biological opinions by both NMFS and the Fish and Wildlife Service in the case of formal consultations. Thank you.

[The prepared statement of Mr. Schwaab follows:]

Statement of Eric Schwaab, Assistant Administrator, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce

Mr. Chairman, my name is Eric Schwaab and I am the Assistant Administrator for Fisheries, within the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA).

Thank you for the opportunity to discuss the National Marine Fisheries Service's (NMFS) activities to implement the Endangered Species Act (ESA) interagency consultation provisions related to the U.S. Environmental Protection Agency's (EPA) registration of pesticides.

An Overview of ESA Requirements for Federal Agencies

The ESA provides for the conservation of species that are endangered or threatened throughout all or a significant portion of their range, and conserves the ecosystems upon which they depend. The responsibility of implementing the ESA is shared between the U.S. Fish and Wildlife Service (FWS) and NMFS (collectively the Services). Generally, FWS manages freshwater and land-dependent species, and NMFS manages marine and anadromous species, including 73 of the total listed species.

Section 7(a)(2) of the ESA requires Federal agencies, in consultation with NMFS and FWS, to insure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of those species' critical habitat.

The interagency consultation process, or section 7 consultation, generally occurs between two Federal agencies—the agency that proposes an action that may affect threatened or endangered species and either NMFS or FWS, depending on the species affected. Generally, the consultation process begins with the action agency's preparation of a biological assessment evaluating the impacts of its action on listed species and designated critical habitat. Upon completion of the consultation process, the Services will develop a biological opinion, which documents their determination as to whether the Federal agency's action is likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of critical habitat. Should an action be determined by the Services to jeopardize a species or adversely modify critical habitat, the Services will suggest Reasonable and Prudent Alternatives (RPAs) to the proposed Federal action in the biological opinion that, if implemented, will avoid the likelihood of jeopardizing the continued existence of a listed species or resulting in the destruction or adverse modification of critical habitat. The biological opinion will also include an incidental take statement, which may contain Reasonable and Prudent Measures (RPMs) to minimize the impact of incidental take of individuals of the species.

ESA Consultation Process for EPA Registration of Pesticides

EPA's registration of pesticides pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) is a Federal authorization that is subject to the interagency consultation requirement of the ESA. Following litigation and pursuant to a settlement agreement, NMFS began consulting with EPA on the effects of 37 pesticides on threatened and endangered Pacific salmon and steel head (salmonids) in 2008. Salmonids are anadromous species that are a valuable economic resource and an icon of the Pacific Northwest and California. Protection and recovery of Pacific salmonids will help restore the economic vitality of salmonid-dependent industries and ensure the long-term survival of these important and iconic species.

NMFS issued its first biological opinion covering 3 of the 37 pesticides in late 2008 and issued two subsequent final biological opinions covering 15 additional pesticides in 2009 and 2010. NMFS is preparing a draft biological opinion on an additional 6 pesticides and will issue the final biological opinion on June 30, 2011. NMFS must complete consultation on the remaining 13 pesticides by April 30, 2012. NMFS is completing these complex consultations on a tight schedule with resource constraints.

NMFS and the plaintiffs developed a schedule for completing consultation on these 37 pesticides as part of a court settlement agreement designed to address the pesticides of greatest concern for endangered species first. The first biological opinion in 2008 analyzed the effects of malathion, diazinon, and chlorpyrifos to 28 listed Pacific salmonids. Of the 37 pesticides that NMFS is scheduled to consult on with EPA under the settlement agreement, these three present the greatest risk to threatened and endangered species of salmonids. In addition, they are broad spectrum pesticides, meaning that the pesticide can harm or kill not only endangered species of concern, but the prey upon which they feed. As a result, in its 2008 bio-

logical opinion NMFS recommended risk reduction measures to reduce exposure of listed salmonids to these pesticides from field run-off and drift.

Stakeholder Involvement in Consultation Process

When a proposed action involves the Federal agency formally approving or authorizing an activity of a non-Federal entity, the applicant for the Federal authorization can also play a role in the consultation process. With regard to the pesticides consultations, EPA and NMFS meet with the pesticides registrants during several stages of the process to exchange information. If NMFS reaches a jeopardy determination, EPA and NMFS will seek input from the registrants into the development of reasonable and prudent alternatives to the action to minimize risk to listed species. EPA also provides the public an opportunity to comment on the draft reasonable and prudent alternatives in the biological opinions.

NMFS and EPA recognize that the implementation of the biological opinions affect other stakeholders and are increasing the participation of those stakeholders in the consultation process, both in EPA's preparation of biological assessments and in NMFS' biological opinions. This year, NMFS hosted stakeholder forums in Portland, Oregon and Sacramento, California to explain the consultation process. In addition, NMFS, EPA, USDA, and FWS are participating in a workshop with the Minor Crop Farmer Alliance on pesticide registration review and ESA consultations. The workshop, which will be held May 24–25, 2011, in Denver, Colorado, is designed to provide grower representatives an understanding of the processes and analyses used by our agencies to identify risk and mitigation options and to identify grower level data that may be available that would enhance the risk identification and risk mitigation decision process.

The Way Forward

The Administration recognizes the scope and complexity of the challenge of the conservation of endangered species and the administration of FIFRA. It has through EPA, NOAA and FWS formed an interagency workgroup of senior policy leaders to craft a multi-faceted strategy to address the challenge. Joining in that group are representatives of the U.S. Geological Survey (USGS) and the USDA Office of Pest Management Policy because of their specialized expertise in the topic area.

One major element of this effort is to address core scientific issues underlying the effective integration of FIFRA and ESA responsibilities. EPA, NOAA, USDA, and FWS asked the National Academy of Sciences to convene a panel to provide its expert advice on certain core scientific and technical issues that serve as the foundation for assessing risks to listed species associated with EPA's FIFRA-related activities. We believe that seeking independent advice on certain scientific issues involved in these processes, will provide the scientific and technical foundation for successful agency collaborations on consultations, enhance consistency in approaches to these issues within the involved agencies, and expand the public understanding of the scientific methods and approaches and their underlying rationale. We requested the National Research Council of the National Academy of Sciences to provide us with its advice on the following topics: (1) best available scientific data and information; (2) sub-lethal, indirect and cumulative effects; (3) mixtures and inert ingredients; (4) modeling; (5) interpretation of uncertainty; and (6) geospatial information and datasets. We developed Terms of Reference for this review, and are currently working with the Academy to convene a panel and proceed with this important work. Once the panel is convened, we expect to receive the panel's recommendations and report within eighteen months. The agencies will consider the advice of the panel and will work together with the goal of developing an agreed upon risk assessment methodology for addressing the requirements of the ESA.

The interagency workgroup is also exploring the potential utility of additional data and modeling capabilities in future consultations. It will undertake work with relevant state pesticide programs to further refine the information utilized in the consultation process. Finally, it will explore the possibility of expanding USGS's water quality monitoring program and modeling capability to help refine projections of exposures that are likely to occur over the 15 year life of a registration.

Finally, NMFS, FWS, and EPA recognize the importance of expanding the opportunities for public participation in the consultation process associated with these FIFRA actions. We intend to pursue expanded opportunities to participate in the consultation processes for the registrants, the affected states, farming organizations and other interested parties. The agencies will solicit recommendations on improving access to scientific information, monitoring data, and other information pertinent to the ESA consultation issues "up-front" in the early preparation of biological assessments by EPA, and over the course of the preparations of biological opinions by both NMFS and FWS in the case of formal consultations.

Thank you again for the opportunity to provide an update on NMFS' activities to implement the ESA section 7 consultation processes related to the EPA's registration of pesticides. We are available to answer any questions you may have.

[NOTE: The responses to questions submitted for the record by the Administration can be found on page 23.]

Mr. LUCAS. Thank you. I would like to thank the panel for their testimony and remind the Members that the Committee will be operating under the five-minute rule on questions. And with that, I turn to Chairman Hastings for his questions.

The CHAIRMAN. Thank you. Thank you very much, Mr. Chairman.

My question is to Dr. Bradbury. Over two years ago on April 10, you sent a ten-page letter to NMFS, to the Director of Protected Resources. And in that letter you outlined over a dozen significant concerns you had about the BiOp.

I am going to cite four of those concerns, and I want to read them in full because I think they are illuminating at least to the concerns that EPA had. The first one is, and I am quoting from the letter, "There seems to be no explanation of the criteria that were used to determine what information was included or excluded."

The second concern was, "It is generally not transparent as to what methodology NMFS's employed to collect information beyond which was provided by EPA." The third one is, "The draft seems not to acknowledge that agriculture chemicals are secondary stressors and therefore considered to be a minor factor in species survival relative to other factors."

And the final concern was "Given the significant nature of our comments, I request EPA be provided further opportunity to discuss the draft and to review and comment on the revised draft biological opinion prior to NMFS's issuing its final opinion." All of these were quoted from the letter.

Now it has been two years since that letter was submitted, so my question is really pretty straightforward. Has NMFS responded in any way, written or otherwise as to addressing the concerns that you outlined in this April 10, 2009 letter, Dr. Bradbury.

Dr. BRADBURY. As my colleagues from the Services have discussed, EPA working with our senior scientists and senior policy leaders with our colleagues in the Services have been addressing many of the issues that you outlined in our letter of a couple of years ago. Issues concerning best available information, how to collect it, how to interpret it in the context of an EPA effects determination as well as a biological opinion, how to ensure transparency in our scientific processes, how to look at cumulative effects, the interaction of multiple stressors and how to work in a process in our efforts in EPA and in our work with the Services in our biological opinion process to ensure there is openness and enough time for stakeholders to get involved.

The scientific issues that you discussed are reflected in many ways the charge that we have provided to the National Academy of Sciences and they are getting at issues like best available information, how to collect it, how to interpret it, how to ensure that uncertainties in the science are adequately articulated and the impacts of those uncertainties describe how to do cumulative effects.

So yes, the conversations have been going on. They have been very intense and they are reflected in our pathway forward in using input from the National Academy of Sciences as we go forward.

The CHAIRMAN. Dr. Bradbury, my time is running out. And my question was I think pretty straightforward. You expressed a dozen concerns. I outlined four of them and I asked specifically has NMFS responded to you in writing as to the those concerns that you requested in your letter of two years. Have they responded in writing to your concerns?

Dr. BRADBURY. The response by NOAA I believe is reflected in the charge to the National Academy of Science, the scope of the National Academy of Science.

The CHAIRMAN. No, no, no. That is a different one. I am talking about specifically the letter that you sent two years. It is a pretty straightforward question. Chairman Lucas said that some of these questions may be a little hard to answer sometimes. Apparently, this was a hard one to answer, but it is a pretty straightforward question. I am just asking have they responded to you in writing with four of the dozen concerns that you outlined in that letter of April of two years ago.

Dr. BRADBURY. In the context of that specific biological opinion, the conversations have been in terms of the broader issues that that biological opinion reflects in terms of looking at sublethal effects, cumulative effects. So the conversations and the information that has been exchanged between the agencies are reflective of the broader challenges that our letter reflected.

The CHAIRMAN. I am not sure that I got the answer. And the only reason I say that in all respect is that I opened my opening statement regarding the President's executive order that information must be based on the best available science and you are responding and asking information based on that science. And what I am hearing you say, Dr. Bradbury is that you have not received a response from NMFS regarding this, but you have had conversations. But you haven't gotten a response, is that true?

Dr. BRADBURY. That is true. And we are working on how to move forward.

The CHAIRMAN. That is all I need to know. Thank you very much. I yield back.

Mr. LUCAS. The Chair now recognizes the Ranking Member, Mr. Markey, for his questions.

Mr. MARKEY. Thank you, Mr. Chairman, very much.

Inert ingredients to improve effectiveness of a pesticide often make up more than 50 percent of a pesticide product, despite the term an "inert" ingredient does not mean the chemical is not harmful.

In fact, Xylene, a common inert ingredient used in almost 900 pesticide products is a potent neurotoxin associated with brain cancer and leukemia in humans and is also harmful to aquatic organisms, including salmon.

Mr. Schwaab, when conducting biological opinions under the Endangered Species Act, does the National Marine Fisheries Service consider the impacts of inert ingredients such as Xylene on endangered species?

Mr. SCHWAAB. Yes, sir, Mr. Markey.

Mr. MARKEY. Yes?

Mr. SCHWAAB. Yes, we do.

Mr. MARKEY. Thank you. Dr. Bradbury, under the law governing pesticide registrations, FIFRA, does the EPA consider the impacts of any inert ingredients on endangered species when it reviews an active pesticide ingredient?

Dr. BRADBURY. Yes.

Mr. MARKEY. You do? There are many ways in which pesticides can threaten the existence of an endangered species. Mr. Schwaab, please answer yes or no to the following questions. In conducting biological opinions on the impacts of pesticides on endangered species, does the National Marine Fisheries Service consider how pesticides affect food sources and prey of endangered species?

Mr. SCHWAAB. Yes, sir. We do.

Mr. MARKEY. How pesticides influence migration and reproduction of endangered species?

Mr. SCHWAAB. Yes, sir.

Mr. MARKEY. How multiple pesticides may interact and threaten the existence of endangered species?

Mr. SCHWAAB. Yes.

Mr. MARKEY. Dr. Bradbury, under FIFRA, in conducting ecological risks assessments on the impacts of pesticides on endangered species, does the EPA consider how pesticides affect food sources and prey of endangered species?

Dr. BRADBURY. Yes.

Mr. MARKEY. How pesticides influence migration and reproduction of endangered species?

Dr. BRADBURY. Yes.

Mr. MARKEY. How multiple pesticides may interact and threaten the existence of endangered species?

Dr. BRADBURY. Yes.

Mr. MARKEY. Has EPA done so in the registrations completed over the last 30 years?

Dr. BRADBURY. We do those evaluations in our consultation packages. They are submitted to the Services.

Mr. MARKEY. So they are in the completed registrations, is that correct?

Dr. BRADBURY. Detailed analyses are in our consultation packages. Scoping analyses are done in our registration decisions.

Mr. MARKEY. So you are saying that you, in fact, do the same work that is done by Mr. Schwaab's office?

Dr. BRADBURY. No, I didn't say that because that wasn't what you asked. What we both do in our respective organizations is try to tackle this very complex set of scientific issues that you have raised. And it is those examples of very complex, scientific questions that we are taking to the National Academy of Sciences to provide all our agencies expert advice on how to take on those issues that you have described.

Mr. MARKEY. So do you ask for this information as part of the registration?

Dr. BRADBURY. As part of the information.

Mr. MARKEY. As part of the registration.

Dr. BRADBURY. Yes, as part of the information that is submitted to support our registration decision, EPA has approximately 100 toxicity studies, including sublethal and chronic and short-term studies in the mammalian species, mice, rats, rabbits as well extensive toxicity data associated with birds, with fish, with aquatic invertebrates, both fresh water and salt water, looking at a variety of end points from acute effects to chronic sublethal effects.

And in our detailed analyses we take a look at all that information to determine what is the likelihood of direct effects on those particular species as well as what could be the indirect effects. Say for example, a reduction in invertebrate prey base and how that may affect fish populations.

Mr. MARKEY. So do you believe that FIFRA, although it does function to screen out some of the most obvious risks to the environment is also capable of giving us the full picture of what these chemicals do after they enter the environment?

Dr. BRADBURY. Yes, I do.

Mr. MARKEY. You do? Thank you. Thank you, Mr. Chairman.

Mr. LUCAS. The gentleman yields back. The Chair yields himself five minutes.

Gentlemen, in a letter dated March 10, 2011, EPA Administrator Jackson on behalf of the Departments of USDA, Commerce, and Interior requested that the National Research Council convene an independent science review of several issues related to the Federal Government's responsibilities under ESA and FIFRA.

This letter is a clear recognition that the science on these biological opinions is flawed and that the Federal agencies appear unable to resolve the concerns. Can you gentlemen commit today that this peer review will be a comprehensive review of all aspects of the biological opinion process, including a review of the method by which economic impacts are evaluated?

And as Mr. Markey would say, that sounds like a yes or no question. Mr. Schwaab?

Mr. SCHWAAB. Mr. Chairman, I listed in my both written and oral testimony the specific areas of investigation that we have articulated in consultation with the other agencies as a focal point of that review. I would be happy to review them again if that would be to your—

Mr. LUCAS. Dr. Gould?

Dr. GOULD. The NRC study was very specific and it has been defined by my colleague from NOAA Fisheries and I don't believe it includes specifically an economic review as part of a science evaluation.

Mr. LUCAS. Dr. Bradbury?

Dr. BRADBURY. The scientific issues that my colleagues have touched upon in their testimony I believe as in my testimony as well reflects the significant scientific issues that we have faced in the past and which become crystallized, if you will, in the biological opinions.

At this point the charge to the NRC doesn't include economics sciences, if you will, in terms of the charge that we have placed before the National Academy.

Mr. LUCAS. Gentlemen, I must admit to you I am disappointed because what I am hearing is that this will not be a truly com-

prehensive process. And I think that is one of the many things that many of us on both committees are concerned about is that if the EPA Administrator took the efforts on behalf of so many agencies of the Federal Government to request that this National Research Council convene such an independent review that perhaps it does need to be comprehensive in nature and cover all the aspects.

Dr. Glauber, in your view what is the impact of the no spray drift buffers on agriculture?

Dr. GLAUBER. I think as I outlined in my testimony, Mr. Chairman, the no spray buffer I think for the most part the assumption is that there would be very little agriculture that could be grown in that area just because of the fact that there is no other alternative available. I mean a lot depends on the specifics of what is being prohibited, but certainly in the assumptions that we made in looking at this analysis of the toxic case that is the assumption we used and it is an assumption that has been used by the Services in some of their analyses.

Mr. LUCAS. So along that line, Dr. Glauber, is it fair to say there is a role for increased economic analysis of the impact of these decisions and rules.

Dr. GLAUBER. In think insofar as the measures and the alternatives are concerned, I think that is where you get the economic impacts and that is what needs to be analyzed I think and an appreciated. Yes.

Mr. LUCAS. And it would seem that the economics, the issues that we would be looking at in such a study depend on what the alternatives are that are available, do you feel that enough consideration has been given to reasonable and prudent alternatives?

Dr. GLAUBER. I think there again we are certainly willing to extend our expertise. I think the Services have been calling on us as of late, but I think that is where more information could be brought to the process. Absolutely.

Mr. LUCAS. On the April 5, the EPA received a letter from Representative Markey and others, asking whether the EPA would initiate cancellation procedures for any of the pesticides dealt with under the first biological opinions received from the National Marine Fisheries Service. Can you please outline the cancellation procedure under Section 6 of FIFRA, with specific emphasis on the due process rights of the registrants and the burden of proof you must meet regarding EPA safety assessment of the product in furtherance of a cancellation proceeding. Step up guys.

Dr. BRADBURY. I will quickly go through that. The steps in a cancellation process start with EPA issuing a draft notice of intent to cancel. And in that document we lay out the scientific issues and other aspects of the registration information before us that leads us to that conclusion.

There is then a requirement that the scientific advisory panel, which I referred to in my oral and written testimony, then does a scientific peer review. At the same time, the Department of Agriculture, and if the product has a public health implication, Health and Human Services also performs a review on our draft notice for intent to cancel.

Once those reviews are done the agency then evaluates that input. And if we conclude that we still need to proceed with the

cancellation, we will issue a final cancellation notice. At that time the registrant, the manufacturer of the pesticide has the right to request an administrative hearing, handled by an administrative law judge. And in that hearing there will be testimony presented, witnesses presented.

During that time frame, if the registrant requests due to scientific issues of fact, there can be a request for a National Academy of Sciences review as part of this overall process. Once that is done, if the agency still concludes the product should be canceled, the registrant has the ability to go to the Federal courts for additional effort.

The burden of proof the registrant has the responsibility to establish that its product can meet FIFRA's standards. So the agency's role is to look at the science and determine whether or not it can still meet that standard and/or whether or not there is sufficient uncertainty that draws into question whether or not the product is meeting the standard. And the registrant has to provide the information to establish that it does meet the standard under FIFRA.

Mr. LUCAS. Mr. Chairman, thank you for indulging me. And I would just note I don't know how you move forward with a cancellation process or maybe any other process if there is a conflict between the view of science from the various Federal agencies. And with that, the Chair would recognize Mr. Cardoza for five minutes.

Mr. CARDOZA. I would like to ask Dr. Bradbury, Dr. Gould, or Mr. Schwaab if one of you can walk us through the exact steps of a Section 7 consultation and in light of these multiple lawsuits how do you know when you have adequately completed a consultation?

Dr. BRADBURY. I can go through the steps real quickly. What happens when you have an action undertaken by a Federal agency they have under the law a responsibility to conserve and protect ESA-listed species. So they actually send a biological assessment of the action they are undertaking to the consulting agencies, which would be the Fish and Wildlife Service, the National Marine Fisheries Service.

We then go through that information about the action and we go further than just reproductive effects or kill/no kill mortality effects. We look at cumulative effects. We look at effects on behavior. We look at things like how that particular action is addressed in concert with other stressors that are affecting a particular species. We look at the geographic scope of the action they are talking about. Very often the action is going to affect an endangered species in a very limited area and if we determine there is a potential jeopardy or adverse modification of critical habitat, then we will go back to the action agency with some reasonable and prudent alternatives. And that is our little discussion with them.

Mr. CARDOZA. Thank you, sir.

Let me drill in a little bit here. How does your agency ensure that it has done a good enough job to prevent legal action against you, if you could answer briefly? Is there a method by which you review your own work to ensure that you don't get sued and is that something that you contemplate happens pretty regularly?

Dr. BRADBURY. We use the best scientific information we have available to us and to the action agency. If we follow the time lines that are required, we usually are protected from suit.

Mr. CARDOZA. How many consultations have the Services completed in the last ten years and how many more are in the queue?

Dr. BRADBURY. In the last ten years? We literally do tens of thousands a year.

Mr. CARDOZA. Tens of thousands?

Dr. BRADBURY. Yes.

Mr. CARDOZA. In EPA's experience, is there a difference between the amount of a pesticide actually used in the field and the amount of a pesticide allowed by the pesticide label?

Dr. BRADBURY. Typically, as we do our risk assessments, especially our reevaluation risk assessments we look at what is on the label as well as what information we are getting from the USDA or the states in terms of how the products are actually used. Typically, the amount that growers are using is less than what is specified on the label.

Mr. CARDOZA. That is what I thought. So it would be inconceivable to assume that every producer of every crop would apply every allowable pesticide at the maximum dose.

Dr. BRADBURY. I would believe that would be a low probability event.

Mr. CARDOZA. Back to Dr. Gould. Is the current process that you engage in is it the most efficient use of taxpayer dollars to achieve the taxpayer's goal, which would be to protect the public, yet allow farmers to be able to produce the crops?

Dr. GOULD. What we carry out is consistent with the law, the ESA. And we believe with the resources we have we are very efficient in providing advice.

Mr. CARDOZA. That is not my question, sir. Do you think we could have more efficient processes that would both protect the consumers and protect farmers?

Dr. GOULD. We believe that the law could be improved administratively to increase efficiencies in the processes.

Mr. CARDOZA. Thank you, sir.

Mr. LUCAS. The gentleman yields back his time. The Chair would note to the Members that we will rotate between majority and minority members of each Committee back and forth. And with that, the Chair would recognize the gentleman from Tennessee, Mr. Fleischmann, for five minutes.

Mr. FLEISCHMANN. Thank you, Mr. Chairman.

My first question is for Dr. Bradbury. Dr. Bradbury, what evidence, if any, has been provided by the Services to EPA to support a conclusion that currently registered pesticides are a leading factor contributing to the endangered and threatened status of specific species, sir?

Dr. BRADBURY. With respect, I think this question should also be answered by my colleagues from the Services who are the expert agencies in looking at the causes for species being listed and the relative role in the listing.

In our effects consultations in our analysis and our biological opinions that we are working through with the Services, understandably the focus is on our Federal action, which is the registra-

tion of a pesticide. So the document and the work that we are doing with the Services are focused on the role of the pesticides with some effort to look at cumulative effects. But I could defer to my colleagues from the Services to discuss the relative role of pesticides and listed species decisions.

Mr. FLEISCHMANN. That would be fine if they would like to answer.

Mr. SCHWAAB. Thank you, Mr. Fleischmann.

I would simply echo that we use the best available science to identify both direct as well as some of the indirect effects that were articulated previously to assess the potential implication and potential harm associated with the use of these pesticides in both the ways prescribed on the label and in application rates that might be at less than full label use. Those factors come into a finding of jeopardy and also factor into the discussion with the action agency regarding reasonable and prudent alternatives.

Dr. GOULD. I might add from the Service's perspective that we really focus in not only on the direct, indirect, and cumulative effects, but the geospatial effects. But we are also looking at potential behavioral effects, olfactory endocrine, endocrine disruptors. That sort of thing that have a broader impact on a species based on the environment, even to a larger extent greater than the pesticide area of use.

Mr. FLEISCHMANN. Thank you.

My next question is for Mr. Schwaab and Dr. Gould. Can you tell me how both of your respective agencies define an effected stream for purposes of potential buffer zone for pesticide application?

Mr. SCHWAAB. Mr. Fleischmann, my best understanding is that this would be either a stream where there has been denoted the presence of affected listed species or in some cases streams that would flow into other water bodies in ways that house affected species.

Dr. BRADBURY. Sir, the Fish and Wildlife Service hasn't really participated at this point or conducted a consultation that would be related to stream buffers, so I would have to defer to my colleague from NMFS at this point. So I don't have a specific answer I can give you.

Mr. FLEISCHMANN. Thank you. Mr. Chairman, I yield back.

Mr. LUCAS. The gentleman yields back. The Chair recognizes the gentleman from California, Mr. Garamendi for his five minutes.

Mr. GARAMENDI. Thank you, Mr. Chairman. And the participants who are here at the hearing thank you very much.

During your testimony I was diverted to look at the history of this, the time lines going back to 1980, the Endangered Species Act, the EPA's responsibility on pesticides and the rest and it appears to me that since 1980 this has been a wrestling match that has gone on and on and on. And ultimately, the Courts have instructed the parties at the table to get on with enforcing the law, is that correct? Are you being ordered by the Courts to do what the law says you are supposed to do?

Dr. BRADBURY. As I indicated in my testimony, as you indicated 20 plus years of challenge in implementing the ESA, including efforts in the late eighties/early nineties when the agency was trying to move forward with protection measures that frankly weren't as

sophisticated as they can be today and Congress was concerned that our activities in trying to do endangered species protection could be jeopardizing food and fiber production.

So we spent a number of years trying to develop the methods to refine our approaches to ensuring endangered species protection. And you are correct, over time the agency was sued for failing to consult on pesticides as its methodologies were being developed. And my written testimony refers to some of those cases.

Mr. GARAMENDI. I appreciate that. And I think I will just forego the answers to the others. What we are trying to deal with here is to sort out how best to implement the law, which requires consultation. And for 20 years for years, some of it having to do with administrative decisions by one or another administration or lawsuits we haven't gotten there.

It seems to me what we are dealing with here are poisons. Poisons to humans, poisons to aquatic as well as terrestrial species and we are trying to figure out how best to regulate the use of those poisons. Is that the case? Is that what we are trying to do here?

Dr. BRADBURY. What we are trying to do here, in my opinion, and I defer to my colleagues too to give their thoughts on this issue, is we are working toward integrating the processes and directives that are within FIFRA and blending those or connecting those requirements that we have in the Executive Branch with the requirements that the Endangered Species Act provides. And we are working toward a handoff, if you will, to ensure that the risk assessments that we do and the regulatory decisions that we do in EPA to ensure those products do not cause unreasonable adverse effects to the environment when we need to have a consultation to then work with the Services to bring their expertise to bear to ensure that we are protecting listed species appropriately.

Mr. GARAMENDI. And in addition to the expertise of the two agencies, Fish and Wildlife and NOAA, you are now reaching out to the National Academy of Sciences and asking for their assistance in providing additional scientific input, is that correct?

Dr. BRADBURY. That is correct.

Mr. GARAMENDI. Do you have a time line for the completion of this process?

Dr. BRADBURY. The work that we are doing with the NRC, and we are getting the details worked out on the contract with NRC, at this point they are estimating 18 months to complete the peer review process.

Mr. GARAMENDI. Just a comment then. There was a question asked earlier about whether you got a specific response to a letter. You may not have, but what you seem to have is a specific contract amongst the three agencies to carry out a scientific study, is that correct?

Dr. BRADBURY. I would term it a peer review. So in other words, we are going to provide the National Academy different perspective, approaches to dealing with these scientific issues and get their feedback on methodology as we go forward.

Mr. GARAMENDI. My final question has to do with my own history. I have been listening to this and involved in these debates since 1974 and always it seems to come down to we can't do it be-

cause it is going to be economically difficult. On the other hand, if the economic difficult is poisoning people and animals and other creatures it is very significant. I want you to get your work done as quickly as you possibly can. Buffer zones are very common. There are many ways to deal with buffer zones and the like.

But I can tell you as a person that lives in an agricultural area when the aerial spraying goes over my house I get really upset because I know there are certain creatures living in that house that are affected by that spray. And so I am equally upset when that spray goes over the river or into the ditches and hence, into the environment.

I hope you carry on your task expeditiously. Thank you. I yield back my time.

Mr. LUCAS. The gentleman yields back. The Chair now recognizes the gentleman from Illinois, Mr. Johnson, for his five minutes.

Mr. JOHNSON. Thank you, Mr. Chairman. Thank you Ranking Member and thank you Mr. Chairman Hastings and Ranking Member.

Let me direct a couple of questions to Mr. Schwaab and hope that you can maybe fill us in a little on your direction and thought. Does your agency consider, and if you do, to what extent the specific economic costs to farmers and other users as well of the reasonable and prudent alternatives for the reasonable and prudent measures that are outlined? And if so, could you maybe bring us up-to-date on how that is evolving and how effective that is?

Mr. SCHWAAB. Yes, sir. Costs are factored in, in discussion with the action agency around reasonable and prudent alternatives and that is the place at which costs, in fact, are factored in. As to further detail, I am not sure honestly what it is you are seeking.

Mr. JOHNSON. I guess I am seeking specifically what your agency does and what you do to consider and to what extent do you consider the cost to farmers. I mean I share some of Mr. Garamendi's comments, but I am also concerned as I assume he is and other members of the Committee are what this is doing to our economic infrastructure. I am concerned that your agency, at least in my observation, perhaps do as complete a job in analyzing what those costs as I would like to see done.

I guess I want to know how that process is going and how specifically you deal with those issues of cost? Is that clear enough for you or do you want me to say it again?

Mr. SCHWAAB. No, apologies, sir. The steps that are taken to address the costs of alternatives is something that is frankly undertaken iteratively with the action agency. So we deal with an action agency who is ultimately then responsible to the end users who are affected by the action of that agency. So the discussion of potential reasonable and prudent alternatives is generally and largely an iterative process. It is possible that Dr. Gould might have some additional thoughts on that from the Fish and Wildlife Service perspective.

Dr. GOULD. We usually have a very specific—

Mr. JOHNSON. Actually, I have a limited time and I was wanting a response from Mr. Schwaab, so I appreciate that. Maybe you could do that later on, but I only have two minutes. So how do you

make the determination Mr. Schwaab as to what economic feasibility is in regard to these proposed RPAs? How do you make that determination?

Mr. SCHWAAB. So the focus is on taking steps that would remove jeopardy to the affected species as a result of the proposed action and the iterative with the action agency would focus——

Mr. JOHNSON. What does iterative mean?

Mr. SCHWAAB. I am sorry.

Mr. JOHNSON. For those of us who use normal words, what does that mean?

Mr. SCHWAAB. In discussion with the action agency, we would propose alternatives and then we would have some discussion around what some alternative actions might be that would be least costly to the end users, but achieve the objective of removing jeopardy or adverse habitat modification.

Mr. JOHNSON. And again for Mr. Schwaab, what are your estimated cost, specifically for agriculture and I guess for others that use the products here that are outlined in your first NMFS pesticide biological opinion?

Mr. SCHWAAB. Sir, I don't have that data with me. I would be happy get that.

Mr. JOHNSON. Yes, if you could just provide that to our Committee staffs, that would be great.

Mr. SCHWAAB. Thank you.

Mr. JOHNSON. And I guess my last question is really a comment. And that is I don't think there is any member of either Committee who doesn't share the concerns your agencies oversee or the concerns of a citizenry and a wildlife citizenry that is protected. But I also don't think, at least speaking for myself, that there are many members of this Committee who don't also have a substantial concern about what is happening in the economy and how what you are doing directly or indirectly impacts that. So I hope you will be advised that among other things we are concerned about the overall structure of things.

Thanks for your testimony and your time.

Mr. LUCAS. The gentleman yields back. The Chair would offer two housekeeping notes. Number one, any responses or information should be provided to the staffs of both Committees. Number two, in the order up will be Mr. Costa, Mr. Fleming and then Mr. DeFazio. With that, the Chair recognizes Mr. Costa for five minutes.

Mr. COSTA. Thank you very much both Chairmen and Ranking Members for your efforts here.

I stepped out for a moment, but Dr. Bradbury I am trying to understand better whether or not you believe or the EPA believes that further legislation is necessary or whether or not you have the ability to deal with efforts on the biological opinions through some efforts with a memorandum of understanding that would be I think far more expeditious and flexible in terms of how you work with your neighboring agencies that are there on the desk. Could you comment on that, please?

Dr. BRADBURY. Certainly. The agency doesn't believe change——

Mr. COSTA. I am talking about process here.

Dr. BRADBURY. Yes. And we don't believe there is a need in FIFRA or a change in the Endangered Species Act to move for-

ward. The challenge is working through these scientific issues that I described, working through a public participation process, coming up with the risk mitigation measures that are tailored and focused and come up with an efficient process. We can do those things with the existing statutes. The challenge before us to get those relationships to be efficient and to move forward.

Mr. COSTA. I mean I think there is a general acknowledgment that that is the case, but in practice I think—and of course, we all know from our local areas in terms of our own experiences that we have had in this case at a Federal and state level. But it seems to me in the case of California where I have some experience that when we have talked about registration, for example, of both herbicides or pesticides that a very rigorous process that we have in California some would say more rigorous than your process in terms of determining before various pesticides or herbicides could be registered that that cooperation or that process that information some would say is totally ignored.

Dr. BRADBURY. If you could elaborate a bit, totally ignored in what context?

Mr. COSTA. In terms of the materials, the information that has developed in this case at the state level as to the efficacy, the methodology, the best science used for application of registration.

Dr. BRADBURY. Thank you for the clarification.

Mr. COSTA. I want to be clear.

Dr. BRADBURY. No, I appreciate that. I believe that our pesticide program and our colleagues in the California Department of Pesticide Regulation actually have a very close working relationship. And certainly, in our reevaluation process we use the use information that California collects as a very valuable source of information to understand how pesticides are used, which helps us to create very sophisticated and detailed risk assessments.

I think your point about the role of the states and growers in the broader Endangered Species Act effort that we are talking about today is very important. And I think my colleagues from NOAA, Eric Schwaab, could talk a bit about how we are working together to bring in the state expertise as well as the growers.

Mr. COSTA. I would like to hear that. I would also like to find out from you whether or not you think the current process is flawed or not, whether it can be improved? I mean there are some that argue that, and I think in this area, generally speaking, our relationship has been better from California with the Environmental Protection Agency than it has been with some of the other agencies there that are being represented, frankly. But some believe that you are hiding behind these court-imposed deadlines to complete your tasks rather than focusing on making sure you get the best science and data available.

Dr. BRADBURY. I would like to have my colleagues also comment on your perspective. Certainly, we in EPA are focusing on improving the situation.

Mr. COSTA. So you think the process could be improved?

Dr. BRADBURY. Of course, so that is why we are going to the National Academy of Sciences. That is why we are having stakeholder meetings with growers and state lead agencies to better get their

input into the process while we are working with our Federal advisory committee to get better—

Mr. COSTA. Yes. I want to get this question in on the record before my time expires.

If no agreement can be reached regarding the economic effect in the National Academy of Sciences' inquiry, can we have a commitment from all the agencies that a hold would be put in place before further action takes place? You can all respond.

Dr. BRADBURY. I will let my colleagues jump in as well, but I think the comments that Chairman Lucas raised and you are raising around the economic issues is something we should take back to our agencies and take a look at the charge of the NAS and see about that.

Mr. COSTA. Let me suggest you do that. And I will ask both Chairs to indulge just for a moment and consider possibly sending a letter that could be signed to make that request because I think, frankly, these need to—we have put a lot of faith in the National Academy of Sciences to provide this. They are in the process on a different matter, but somewhat related reexamining the biological opinions in areas that both Congressman Garamendi and I are working on in a separate issue.

But good science is what we always want to be used. And of course, the more that we learn on these things the more we need to understand its impact on a daily basis. So if both Chairmen if you would be willing to follow through on that I think it would be meritorious and be supported on a bipartisan basis.

Mr. LUCAS. The gentleman's point is very well made. The gentleman's time has expired.

Mr. COSTA. Thank you.

Mr. LUCAS. The Chair now turns to the gentleman from Louisiana, Mr. Fleming, for his five minutes.

Mr. FLEMING. I thank the Chairman.

One thing I would like to address before I get to my question is this idea that we can have any regulation, any restriction no matter what the cost. I think as we approach a \$15 trillion debt in this country we have to understand that any study has got to include the cost, cost versus benefit. Any business, any municipality, any other government always has to examine that. So as was just acknowledged, a reasonable and prudent alternative must be economically feasible.

If you can't agree to ask the NSA to review your economic models, then I am afraid the NSA review will be insufficient to resolve these complex issues. So I wanted to be sure that we address that.

I want to talk a moment about my home state Louisiana, but this issue goes far beyond Louisiana and certainly will in future years. In my home state aquatic plants have a serious impact on the wetland ecosystems, specifically giant salvinia, a plant species native to Brazil has taken over two key lakes, Caddo Lake and Lake Bistineau located in Northwest Louisiana. These giant mats have rapidly grown into dense blankets that kill the vegetation and fish below the surface by blocking the penetration of sunlight to the water. And this stuff grows inches by the day. It is an amazing type of plant.

Salvinia infestation reduce boating and fishing opportunities because boats cannot maneuver, obviously, through these thick mats. So my question, Dr. Bradbury, are what herbicides, if any, are currently used to control or eradicate giant salvinia. Go ahead and answer that first and then I will follow up on a question.

Dr. BRADBURY. I don't have that information with me, but I can certainly get that information to you when I get back to the program.

Mr. FLEMING. I would appreciate it if you would get that to me in writing, or at least to the staffs and we will distribute that.

And I would also like to know in follow-up, how would the biological opinions dealing with the impacts of pesticides on listed salmon affect the use of herbicide use to treat fresh water plants like salvinia, which are now found as far west as Southern California? So the idea is (a) what is available to us? In fact, we are going to have a field hearing in June, including my colleague, Mr. Gohmert, from Texas on this very subject and we need to know what the impact of those alternatives, those options, the herbicides, what effects they are going to have on certainly other species.

My follow up question I think is just going to be too long in the period of time I have. So with that, I will yield back.

Mr. LUCAS. The gentleman yields back. The Chair now recognizes the gentleman from Oregon, Mr. DeFazio, for his five minutes.

Mr. DEFazio. Thank you, Mr. Chairman.

Mr. Schwaab, I am concerned a little bit about NMFS, its resources and capabilities. And this goes to in this case three BiOps have been done, about half of the 37 pesticides. Now you are going to consult—and that is on a limited number of species. Now we are going to review on 200 species. I have been trying to get your agency to process a simple bar scale thing, that is, gravel mining which takes place with accumulated winter deposited rocks in a river where the people removing the rock never touch the water. I can't think of any more benign way to get aggregate. I can't get that out of your agency because you don't have resources and time.

Then we have individual timber sales that have to be consulted on and now we are looking at all new forest management practices with the new opinion on the spotted owl. Where are you going to get the resources to do all this stuff? And as I understand it my colleagues on the other side of the aisle are proposing to cut your agency? Can you complete these in 120 days?

Mr. SCHWAAB. Balancing a number of these challenges is a tall order for us as an agency. It is something that we struggle with, both in prioritizing and in responding on a daily basis.

I will say that beginning in Fiscal Year '08 we received approximately \$1 million specifically for pesticide consultation. There are six full-time equivalent positions that conduct these consultation and yet, we continue to be challenged to meet all of the deadlines, both in this specific area as well as in others.

Mr. DEFazio. Isn't the statutory, once you begin formal consultation, 120 days.

Mr. SCHWAAB. Yes, sir.

Mr. DEFazio. And have you met that for anything recently?

Mr. SCHWAAB. I would have to get back to you with a more detailed answer on that. The short answer is no.

Mr. DEFAZIO. Right. So this is a concern. And I mean this needs to be put in the context of how we deal with this.

Is there, and I would asked anybody there, is there a better way to coordinate this process among the agencies up front in terms of an evaluation which is somehow—I mean we have critical habitat designation. We have other ways of dealing with species concerns, which can cover very large areas. Is there any way that this could be approached more efficiently, coordinated among the agencies and get done without an individual consultation on every pesticide, on every species with these six people? I would expect that they will all be retired long before they have accomplished this task and then it will be intergenerational. So anybody got an idea how we can do this better?

Mr. SCHWAAB. The only thing that I would offer at the outset, and it is not specific to this pesticide consultation issue is the opportunity that we have availed ourselves of with the Fish and Wildlife Service to move in the direction of developing integrated biological opinions where we have multiple species that are impacted.

Mr. DEFAZIO. That is what I am getting at. Would there be a way, within a region or within at least a watershed, to cover a wide range of species with one consultation as opposed to 37 times 200?

Dr. GOULD. I agree with Eric in this case. We need to get to a place where we do integrated consultations.

Mr. DEFAZIO. Do you need different legal authority to do that? Can you do that under existing law? Can you do that under the court mandates?

Dr. GOULD. We would have to make some administrative changes to the process, which could be done through an administrative process, Federal Register process to get that done, but we could do it.

Mr. DEFAZIO. Is that underway because this seems very desirable to me because we are never, ever going to get to the end of 37—I mean this is just one court case, 200 times 37, right?

Dr. GOULD. Congressman, we are working on it right now.

Mr. DEFAZIO. Thank you. Thank you, Mr. Chairman.

Mr. LUCAS. The gentleman's time has expired. The Chair now recognizes the gentleman from Texas for five minutes, Mr. Neugebauer.

Mr. NEUGEBAUER. Thank you Chairman Lucas and Chairman Hastings for holding this very important hearing.

Director Gould, I represent the 19th Congressional District and my constituents are very concerned about your agency's potential listing of the sagebrush lizard. And I want to thank you for reopening the comment period. And as you know, there were a couple of listing sessions just the past couple of weeks with a fairly major outpouring, a number of people that showed up at those hearings. And I am certainly hoping that the agency was listening to the folks that showed up for those hearings because, as you know, they were largely attended.

There was an AP article regarding the dunes sagebrush lizard dated April 28. It said that, and I quote, "Neither the environ-

mentalists nor the Federal wildlife managers have population estimates for the lizard, but they point to distribution studies that show about a quarter of those sites where lizards were once found were no longer occupied." Is that a true statement?

Dr. GOULD. Sir, I am familiar with that particular article or the science behind the lizard that you are referring to, but I will get back to you with an answer to that question.

Mr. NEUGEBAUER. You said you are familiar with the science, is that correct?

Dr. GOULD. No, I am not familiar with the science related to that particular situation.

Mr. NEUGEBAUER. Would it be fair to say that it is a policy of the agency to list certain species when you don't have population data?

Dr. GOULD. I am not going to comment. I will get back to you because I believe we have to have population data, best available science to make a determination because it is not only based on the population status. It is based on threats. And I understand there is concern and that is why we reopened the comment period and that is why we are very willing to take input such as you just indicated that is going to affect our decision.

Mr. NEUGEBAUER. I think it is very disturbing. I think it would disturb Members on both sides of the aisle here if we felt like that the agencies were making decisions based on assumptions. And particularly, what we are hearing more and more is that some of the environmental agencies are being lawsuit driven in their decision making and not science driven.

And just because somebody files a lawsuit against you, even if they prevail in that lawsuit I think we have to be careful that we are reactionary and we make up some assumptions so we can follow through with that.

Dr. GOULD. We are science-driven.

Mr. NEUGEBAUER. When I hear that you don't have population counts. Have you ever been quail hunting?

Dr. GOULD. Yes. Several times.

Mr. NEUGEBAUER. You know the covey isn't always where they were the year before.

Dr. GOULD. I understand.

Mr. NEUGEBAUER. But it doesn't mean the quail are gone. It just means the covey moved. This is a very important listing that is being proposed here. This has a huge impact on our nation, not just the 19th Congressional District or eastern New Mexico. But I mean this impacts our country because in the area that we are potentially listing about 20 percent of the nation's domestic oil production occurs in that area. And so when you start talking about a listing and then potential shutting down of wells or restricting the ability to produce additional energy resources for the American people that is no small matter. And certainly a decision that should be made on science.

I won't even go down the road today of should we hold up America's energy supply for a lizard, but I am certainly bringing a point to your agency today. I believe that I and other Members, and I think one of them is sitting next to me, would concur that we are going to be watching this process very closely.

And I know that overwhelming the testimony that has been heard, both in these recent hearings is opposed to this and question the science.

The CHAIRMAN. Will the gentleman yield?

Mr. NEUGEBAUER. I would yield.

The CHAIRMAN. I just wanted to say welcome to the club. You only have one listing. In my district I mentioned in my opening statement about all the listings of salmon and in addition to that we have the grey wolf and we have spotted owl, and I am sure I am overlisting. So I will just simply say welcome to the club from the standpoint of understanding how this has an impact on our economic well being. And I don't say welcome in the sense like come on aboard. I am just simply saying you are there, but I thank the gentleman for yielding.

Mr. NEUGEBAUER. And I appreciate both Chairman Lucas and Hastings. This is a very important hearing. And I see my time has expired. I will be looking forward to that information.

Mr. LUCAS. The gentleman's time has expired. The Chair now turns to the gentleman from the Northern Marianas, Mr. Sablan, for your five minutes.

Mr. SABLAN. Thank you very much, Mr. Chairman.

First, I would like to commend the agencies before us for undertaking a National Academy of Sciences review on the specific scientific and technical issues related to the risk of pesticides on endangered salmon. But I have questions, and a yes or no answer would probably suffice.

On pesticide and toxicity in use, Mr. Schwaab, are pesticides in question here harmful to juvenile salmon?

Mr. SCHWAAB. Yes, sir. They certainly can be, both directly and indirectly.

Mr. SABLAN. Is there anyone on the panel that disagrees with this answer?

Dr. BRADBURY. I think the key to Mr. Schwaab's answer is that they can be. The evaluation of risks is a combination of what is the level of exposure combined with what the hazard is to determine whether or not there is risk or the potential for an adverse affect.

Mr. SABLAN. Dr. Gould?

Dr. GOULD. Could you repeat your question again?

Mr. SABLAN. Yes. Are the pesticides in question here today harmful to juvenile salmon?

Dr. GOULD. I am going to have to defer to my friend from National Marine Fisheries Service, specifically because his agency is specifically responsible for the salmon.

Mr. SABLAN. And Dr. Glauber, just yes or no.

Dr. GLAUBER. I would say yes, but I would also second what EPA has said. I think this is a question of risk and trade-offs when you get to the measures and alternatives.

Mr. SABLAN. Now on the availability and use of data, Mr. Schwaab, does the National Marine Fisheries utilize the best available scientific information when formulating its biological opinions?

Mr. SCHWAAB. Yes, we do. We use the best available science. And at the same we continually strive to improve on that science.

And Mr. Sablan, if I could just clarify on that previous answer, or be more precise. It is dose and time of exposure that ultimately factor into——

Mr. SABLAN. The answer was no. And does the Service ignore or refuse to consider any data when formulating a biological opinion?

Mr. SCHWAAB. No, sir. We give consideration to any data that is made available to us.

Mr. SABLAN. And did the Service use the USDA pesticide use data when formulating the biological opinion? You don't have to answer that if you can't.

Mr. SCHWAAB. I am not sure exactly what data you are referencing there.

Mr. SABLAN. The data used for formulating the opinion, the USDA pesticide data.

Mr. SCHWAAB. So if it were labeled concentrations and ingredients, the answer is yes.

Mr. SABLAN. Thank you.

And on the consultation process again, Mr. Schwaab, would you please discuss the ways that the National Marine Fisheries Service has provided for public participation during the consultation process.

Mr. SCHWAAB. So generally, the consultation, sir, is between the action agency and the evaluating resource agency, and in this case the National Marine Fisheries Service. So often draft biological opinions are made available. There are then further opportunities for discussion in the process, both with the action agency and sometimes extension into affected communities. That is something as we spoke of in our collective statements an area we want to build upon going forward.

Mr. SABLAN. And I am assuming now that with the continuing process there has been improvement with each subsequent biological opinion.

Mr. SCHWAAB. Yes, sir. We have created opportunities, particularly as it relates to pesticides to reach out more directly to affected communities in several different ways.

Mr. SABLAN. Thank you, Mr. Chairman. I yield back.

Mr. LUCAS. Would the gentleman yield before he yields back.

Mr. SABLAN. Yes, I do.

The CHAIRMAN. I want to follow up on a question that you asked about the best available science and Mr. Schwaab, you answered very definitively yes. In my earlier questions, and I asked Dr. Bradbury if NMFS had responded to some concerns they had and one of them was this, and I will quote, "The draft seems not to acknowledge the agricultural chemicals are secondary stressors, therefore considered to be a minor factor in the species survival relative to other factors."

Now that seems to me some sort of a scientific aspect to that. And Dr. Bradbury said you hadn't responded. Could you respond to this Committee specifically on that question and how the best available science that you are employing is relative to what that statement was?

Mr. SCHWAAB. Yes, sir, Mr. Chairman.

The CHAIRMAN. The time is running out. I just want you to tell me that you will respond to that quote that EPA had sent you over

two years ago. If you could respond to that, on how that works in with the best available science I think the Committee would like to have an answer to that because you answered affirmatively to Mr. Sablan saying that best available science was being used. So if you could respond, I would appreciate that.

Mr. SCHWAAB. Do you want me to do that now?

The CHAIRMAN. No, respond in writing because my time is obviously up.

Mr. SCHWAAB. OK.

The CHAIRMAN. Thank you. Thank you, gentleman, for yielding.

Mr. LUCAS. And the gentleman's time has expired. The Chair now recognizes the gentleman from Florida, Mr. Southerland for five minutes.

Mr. SOUTHERLAND. Thank you, Mr. Chair.

Florida agriculture is the second largest economic contributor in the state with a \$12 billion economic impact. However, Florida's many diversified crops are relying upon safe and reasonable access to crop protection tools and pesticide production. I want to ask Dr. Glauber this question.

What is the impact or potential impact on Florida's ability to continue to provide wholesome food supplies to our nation through these overlapping regulations, which may not be based on the best available scientific information?

Dr. GLAUBER. Congressman, I think again a lot depends on what measures and actions are put in place. If we are talking about no spray buffers or whatever and there is no potential substitute biological or cultural controlled method, then it could be very adverse in the sense of prohibiting no production along those waterways.

Mr. SOUTHERLAND. Moving on, I know agriculture accounts for 70 to 80 percent of all pesticides in use. Mr. Schwaab and Dr. Gould, do the Services consider the cost of to farmers and other pesticide users of the reasonable and prudent alternatives, the RPAs, and the reasonable and prudent measures, RPMs, outlined in the biological opinions?

Mr. SCHWAAB. Yes, sir.

Mr. SOUTHERLAND. I know you have been asked that.

Mr. SCHWAAB. As I indicated earlier, the cost is factored in, in the development and choice amongst reasonable and prudent alternatives.

Mr. SOUTHERLAND. So not just the cost and the use of the—so you are saying that the economic challenges is factored into your decisions?

Mr. SCHWAAB. That would be factored into the selection of reasonable and prudent alternatives. Yes, sir.

Mr. SOUTHERLAND. All right. Now how does the Fisheries define what is economically feasible with regard to proposed RPAs in your biological opinions. Define that for me.

Mr. SCHWAAB. I am not sure I can give you, sir, here today an all encompassing definition of that. That would be something that would be developed on a situation-by-situation basis. It is true that we have to take actions to remove jeopardy or to avoid actions that would allow jeopardy to continue. So the economic factors are in a sense, by statute, secondary to that. But they are factored in once

you look at the available tools that would be there to either avoid jeopardy or to prevent adverse modification of habitat.

Mr. SOUTHERLAND. Is there any effort on the Service's part to incorporate input from industry groups and those who actually utilize these, farmers and those in agriculture to determine what reasonable is, or is it solely based reasonably defined by individuals that are Federal employees?

Mr. SCHWAAB. Sir, I would say first, as I indicated earlier, this is first and foremost a conversation that occurs between the action agency and the reviewing agency. Obviously, in addition to that we are always, particularly as we are looking to do in this case, reaching out with that action agency as well as independently to gain a better of understanding the particular perspectives of the stakeholders.

Mr. SOUTHERLAND. Is that a no, though? Is there a no that there are no industry individuals, companies, or farmers their input is not used in defining what is reasonable?

Mr. SCHWAAB. No, I would not say that is a no. I would say that is a yes, although predominately through the action agency at this point.

Dr. GOULD. We, the Fish and Wildlife Service and NMFS have when we work with the action agency we may come up with some initial RPAs, reasonable and prudent alternatives. We have an opportunity to work with the action agency to work with the affected stakeholders. And we would welcome additional RPAs that maybe even developed by them for consideration. We are not going to do this in a vacuum because we understand the effects of our actions on those particular folks.

Mr. SOUTHERLAND. I want to reiterate. I know we have talked about comprehensive reviews of your recommendations and your studies. I know we have talked about reaching out with the National Academy of Sciences and I just want to implore that the economic impact has to be considered.

I know that Mr. DeFazio made reference to cutting your budget. Who pays for your budget? Who funds your budget? It is the hard-working men and women in the small farms and those that support agriculture who produce tax revenue that comes into the Treasury, and that is the only way that you get an increased budget. And as these rules are passed down and eliminates small businesses, it is hard for you to have, though, a growing budget with a decreasing agriculture environment where people cannot survive. So if you are going to have a comprehensive study, it has to include economic impact. I yield back.

Mr. LUCAS. The gentleman's time has expired. The Chair now recognizes the gentlelady from Hawaii and then the gentleman from Georgia will proceed after her. You are now recognized.

Ms. HANABUSA. Thank you, Mr. Chair.

I would like to start with Mr. Schwaab. During Mr. Markey's questioning, people may have gotten the impression that the FIFRA registration process and the ESA consultations are duplicative. In your opinion, are these two statutes redundant in the information they provide, or do these two laws have to work together to adequately protect the endangered species?

Mr. SCHWAAB. Thank you Congresswoman. We obviously have the greatest expertise as it relates to implementation of the Endangered Species Act. That is a process that is set up and importantly directed to the protection of rare, threatened, and endangered species. We see opportunities, as we have in this process, for greater integration of the processes and goals of FIFRA with the processes and goals of the Endangered Species Act and think there is a place for and benefit to be derived from each.

Ms. HANABUSA. Along that line, do you believe that the way to improve this process by meeting the requirements of the Endangered Species Act that is somehow—how are you going to do it without compromising the FIFRA registration process?

Mr. SCHWAAB. Thank you. A number of concerns in that regard are particularly the focus of the terms that are articulated in this National Academy of Sciences study, reconciling some of the risks and exposure modeling, some of the ways in which we deal with consideration of ingredients, exposure levels, different levels of impact, direct/indirect, sublethal and the like, cumulative, et cetera, all areas that are ripe for further investigation as we look to better integrate these two processes.

Ms. HANABUSA. Do you anticipate that it may result with some sort of new regulations that will have to be instituted?

Mr. SCHWAAB. I think it would be premature to judge that.

Ms. HANABUSA. I would like to now ask some questions of Dr. Bradbury.

Dr. BRADBURY. When you began your testimony, you made the statement that when used properly pesticides provide significant benefits to society, such as controlling disease-causing organisms and so forth, yet, throughout the testimony what we are hearing is this conflict with the consultation process. My first question is on the consultation process you also listed in your testimony a whole line of cases that obviously you are contending with. Is the consultation process that was anticipated under the Endangered Species Act is that different from the consultation process which you must engage in as a result of a court injunction or the court orders that you have listed?

Dr. BRADBURY. I believe the challenge that we are working through with our colleagues in the Services transcends a litigation case versus our registration process in folding the consultation process into that. What we are working through is how to ensure that the science we use in our registration analysis has the kinds of information and analysis that then allows for an efficient consultation process if we determine that we need to go into consultation. So the work has been ongoing with our technical workgroup and now getting some advice from the National Academy of Sciences is directed toward how, as I think I said in my opening comments—really the question is how to create a very efficient and effective hand off between the science we do under FIFRA and the science that has to happen in the consultation process.

Ms. HANABUSA. And you may not have enough time to respond, so you may have to do this in writing. I see in your testimony also the reference to a review process every 15 years. I also see that the registration process is a condition, of FIFRA, and the consultation process seems to be a condition of the Endangered Species Act. So

at what point does one trump the other? In other words, does the consultation process trump FIFRA or the registration process and/or at what point do you make a determination that you must engage in the consultation process? Because in your synopsis of the cases you made it very clear in parentheses consultation if necessary. So there is a determination process and consultation is necessary.

I see we are out of time so, Mr. Chair, can you ask him to respond in writing, please?

Mr. LUCAS. Absolutely. The gentleman will respond to both Committees.

Ms. HANABUSA. Thank you very much.

Mr. LUCAS. The gentlelady's time has expired. And the Chair now turns to the gentleman from Georgia for his five minutes.

Mr. AUSTIN SCOTT OF GEORGIA. Thank you, Mr. Chairman.

And I want to go back to what my colleague Mr. Southerland was talking about. And my question specifically for you, Mr. Schwaab would be when you are in the rulemaking process are the economic consequences and recreational opportunities for the American citizen considered and taken into account in the rulemaking process? All I hear is best available science, best available science, best available science. And I want to know if the economic consequences of that rule and the impact on the American citizen from a recreational standpoint are taken into account.

Mr. SCHWAAB. Yes, sir. Overwhelmingly so in our rulemaking processes. We are speaking here particularly about a consultation process and the economic circumstances are factored in, in that reasonable and prudent alternative development phase.

Mr. AUSTIN SCOTT OF GEORGIA. You say overwhelmingly so. I want to get back to, and it doesn't seem to me that it matters what we are talking about. We have a problem here in that we don't trust you in the rulemaking process. I mean that is the bottom line. We are not scientists. We have to work together and yet, what I see, and I have only been in Congress for four months, so it is indifference, if you will, from agencies toward the American citizens and toward, quite honestly, Congress in many cases when we ask the questions. And I just tell you a gentleman from Georgia when Matheson and Stevenson was passed expressed concern with your agency, the Tampa office specifically, over the fact that they were using science to change the limits on fish in the Gulf of Mexico. And they determined that instead of four snapper you should be allowed to keep two.

Now this person fished a lot in the Gulf of Mexico and truly believed that changing the seasons was the better alternative because of the by-product. When you throw a snapper back it is dead, basically. That is the real science.

The agency then turned around and cut the limit. Turn around the next year and used the science again to say we should have shortened the seasons. We are going to shorten the season. I tell you the person that made that phone call that was basically told by the people in Tampa that they didn't care what they thought was me. And I mean what happens when American citizens are treated that way by your agencies they become reluctant to support you, even when you have the common goal of sustainable fisheries.

And I guess my question is where do we find the balance between science, the economy, and the American citizen and what they need with regard to recreation and a safe environment?

Mr. SCHWAAB. Thank you, sir, for that example because perhaps it also gives me an opportunity to clarify my use of overwhelming because fishery management decisions were the context in which I was particularly thinking in that regard where extensive social and economic evaluations of the implications of all the rules that we put forward are a significant part of that process.

The other thing I would note for you is that particularly as it relates to seeking the balance in a fishery management context we work very closely with eight regional fishery management councils. Those councils are made up of recreational fishermen, commercial fishermen, state agency heads. And it is often those councils that make those decisions around, for example, season lengths and the trade-offs between—

Mr. AUSTIN SCOTT OF GEORGIA. Mr. Schwaab, I apologize for interrupting. We are short on time and I going to say this and I am going to yield back.

With all due respect, and I don't know you, but one is I would like to see the Director of the Office of Sustainable Fisheries at some point to discuss it with them. But there was little to no regard for the recreational fisherman in the rulemaking process with regard to snapper in the Gulf of Mexico. Thank you.

Mr. LUCAS. Would the gentleman yield to me before he yields back.

Mr. AUSTIN SCOTT OF GEORGIA. Yes, sir.

Mr. LUCAS. I would just like to offer an observation that the Services assert they use the best available data, yet in acknowledging their models are fundamentally flawed they have asked NAS to help define best available data. Clearly, the Services aren't using the best available data as they have suggested today, considering the economic impact where their opinions could have on agriculture and forestry. I had hoped that we would first fix our models before we began discussing implementation of those opinions.

The gentleman yields back. The Chair now recognizes the gentleman from Arizona for five minutes.

Mr. GRIJALVA. Thank you, Mr. Chairman.

I appreciate all the conversation. The issue of balance and where economic benefit becomes part of the balance process both in consultation and under FIFRA with EPA. But let me for the moment interject another species into the discussion.

EPA estimates that between 10,000 to 20,000 farmer workers are poisoned to one degree or another by the use of pesticides, that the children have the highest risk of exposure to pesticides through drift around their schools, their parks, their backyards. And that Ranking Member Markey mentioned those three studies. One of them in particular talked about one of the pesticides being used and there was a study on farm worker women and their children and found that by the age of seven there was a determinable drop in IQ and developmental ability on the part of children under seven.

I mention those because my question is, Dr. Bradbury, is it true that under FIFRA the EPA can register pesticides that pose a risk

of concern to humans as long as it can be shown that the economic benefit outweighs the risk? Is that true?

Dr. BRADBURY. That is not true. If the pesticide is a food use pesticide, so it is used on crops that get into the human food supply then we operate under the Federal Food, Drug, and Cosmetic Act and that is a risk only statute so they have unreasonable adverse effects. Any reasonable certainty—no harm we don't register the product.

Mr. GRIJALVA. So following that logic then the EPA when you measure adverse effect, does that chronic and long-term health effects on humans? Is that part of the study process?

Dr. BRADBURY. Among the hundred plus studies that we receive from the registrant, that includes chronic studies, cancer, bioacidities in rats and reproductive developmental studies. In addition, we look at the published literature, looking at epidemiology studies.

In fact, in the last year or so we have met with our Science Advisory Panel to get advice on how to better interpret epidemiology studies and how to bring those studies into the overall risk assessment process.

Mr. GRIJALVA. Back to that study, chlorpyrifos that is still listed as permissible use, yet studies seem to indicate that it has the kind of adverse effect on humans that I mentioned with the study of farm worker and the women and children. So how do you balance what you just said with that?

Dr. BRADBURY. So we are in the process of reevaluating chlorpyrifos. Right now we have a scientific advisory panel meeting scheduled for June, in a couple of months to take a look at the science associated with chlorpyrifos. These studies that just came out our scientists are reviewing them and will at least be bringing forward some of the concepts in these epidemiology studies to the Science Advisory Panel.

The challenge in looking at epidemiology studies, which creates statistical associations between exposure and effects and we are working toward how to understand that kind of information and link it with information—

Mr. GRIJALVA. With the perpetual debate around linkage, right?

Dr. BRADBURY. How to integrate that information with animal toxicology studies, which gives a better hand of dose response.

Mr. GRIJALVA. So I am assuming with that process there are also the revisions to the worker protection standards is something that will be ongoing since that has been quite a while since that has been looked at.

Dr. BRADBURY. One of my program's highest priorities is to move forward on the work of protection.

Mr. GRIJALVA. I appreciate that. I agree that there is a balance issue at hand here, but there is also a health and safety issue at hand. And the Endangered Species Act has afforded, up to this point, and it is very gratifying to hear your comments, sir, the best opportunity for that human health and safety issue to be incorporated in those consultations. So thank you very much. And I yield back, Mr. Chairman.

Mr. LUCAS. The gentleman's time has expired. The Chair would note that we have at this point three remaining Members for ques-

tions, Mr. Flores followed by Mr. Thomas followed by Mr. Bishop. And with that, the Chair recognizes the gentleman from Texas for five minutes.

Mr. FLORES. Thank you, Chairman Lucas and thank you Chairman Hastings for hosting this hearing today.

I wanted to remind everybody about the title for this hearing is At Risk American Jobs, Agriculture, Health and Species—the Cost of Federal Regulatory Dysfunction. And we have talked a lot today on your side of the room about science. What you are hearing from this side of the room predominately is about economics and jobs. And so I am going to reiterate several comments that we have said today about economic analysis not being included in these studies.

As I am sure each of you are aware, the ESA has a charge that economic analysis will be included, particularly as it affects folks in agriculture when you look at regulations moving forward. And also we have a new executive order, 13563, that requires that we look at the impact of new regulations while promoting economic growth, innovation, competitiveness, and job creation.

So my question, and I would like about a 15-second answer from each of you, when are we going to get back to looking at economic analysis as with respect to agriculture and the ESA and also Executive Order 13563 as we go through this process? So I would start with Dr. Glauber.

Dr. GLAUBER. The gentleman on my left will be able to respond a bit more to this. But my understanding of the ESA for a critical habitat designation, for example, there is cost-benefit analysis put in there.

As I mentioned, we have talked about many times during the consultation process development of prudent and reasonable alternatives. I think there is a very important place for economics as well.

Dr. BRADBURY. In the aspect of moving into an endangered species consultation when has to happen from EPA's perspective, the first step is making that registration decision. And through that process, the first step is getting the science right and ensuring that we have the best available science, using public participation to refine that science.

If we need to make risk mitigation measures to again get public input to try to optimize any mitigation that needs to happen, that includes an economic analysis to try to minimize the economic burden in the context of the risks that we have to protect against.

If we have to go into consultation, then there could be another iteration of that, and that is the edge of where we are now in trying to make that linkage.

Mr. FLORES. Dr. Gould?

Dr. GOULD. As was indicated by Dr. Glauber, the critical habitat stage of the Endangered Species Act does require us to do economic analysis. But in terms of the relations between FIFRA and the consultations on FIFRA, I agree that we should be considering the economic impacts along with the action agencies at the RPA stage.

Mr. Schwaab. I would just make the same observations, sir.

Mr. FLORES. OK. I have one more question since I have some time. This has to do with a constituent in my district. This is for Director Gould. There is an electric transmission distribution pro-

vider in Texas, which began an application with Fish and Wildlife Service for a 30-year Endangered Species Act § 10(a)(1)(B) permit in 2008.

And it was my understanding that this constituent worked diligently with FWS to meet all Federal requirements and establish goal of completing the process by June of this year. However, due to delays in his permitting process they are concerned that this goal is no longer within reach.

I wanted to highlight this issue as well as a letter that I sent to you and Secretary Salazar on April 15. I would ask unanimous consent that this letter be inserted in the record. Dr. Gould will you be able to update me on this process in a timely manner

Dr. GOULD. Yes, sir. I will.

Mr. FLORES. Thank you. I yield back.

Mr. LUCAS. The gentleman yields back. The Chair now recognizes the gentleman from Pennsylvania for five minutes.

Mr. THOMPSON. I thank the Chairman and Ranking Members. Thank the panel for your testimony.

Dr. Glauber, in your written testimony you talked about the mitigation efforts consultation programs, obviously an area of particular interest. And I thought you coined it well, a great metric for measuring wise investments in terms of taxpayer resources and the outcomes we are looking for. You talked about payments tied to estimated benefits.

I wanted to just to get your thoughts on how effective have we been at tying the payments of these programs to actual benefits. What kind of outcomes are you seeing?

Dr. GLAUBER. That is a challenge. And I think I mentioned in the testimony just problems, for example, in Washington where you do the per-acre costs, the opportunity cost for a farmer for irrigated land is pretty high. And so trying to encourage that sort of land to come in is, of course, very expensive. And you are talking about a conservation program that may not have a lot of dollars. So that is the challenge is how to do that most effectively.

But obviously, there are a lot of potential benefits in those programs. I think if they are well targeted and are trying to get certain environmental benefits I think there is some real potential there. The problem is there are not a lot of dollars.

Mr. THOMPSON. I look forward to certainly continuing our communications in the future as we prepare for the next farm bill and critically evaluating what works and what does not work, and look forward to your experience.

My district is very rural. It is home to significant forest lands and makes up nearly a quarter of Pennsylvania. And we have dealt with the gypsy moth for many years and are always watching the Emerald Ash Borer.

Dr. Glauber, what in your view are some of the unintended consequences of the Endangered Species Act on managing invasive species, such as specifically the Emerald Ash Borer, which is presenting a tremendous threat to our forests in Pennsylvania?

Dr. GLAUBER. Let me just say obviously this a big effort to try to control invasive species. And to the degree that that comes in conflict with the Endangered Species Act determinations, I think they are, as we are working out through these consultations, this

is exactly where the rubber hits the road I think in developing prudent and reasonable alternatives.

Mr. THOMPSON. Dr. Bradbury, you mentioned in your written testimony three lawsuits that EPA is currently dealing with that have "the potential to have significant impact on pesticide registration actions generally."

In my opinion, certainly some individuals of environmental organizations are purposely using the legal system to try and expand upon the basic congressional intent and jurisdiction of the current law. I also think they are using it as a very successful fund-raising programing as well since the Federal Government reimburses most of those costs for them.

In other words, they sue the EPA, the Forest Service, whatever agency to force a court decision and hopefully get a sympathetic judge to rule in their favor. My question really is to all the panelists. I assuming this is something you are seeing that is impacting all of your agencies, the filing of these lawsuits that basically is interfering with really legislatively congressionally directed public policy.

Dr. GOULD. From the Fish and Wildlife Service's perspective, these suits have been particularly problematic because sometimes they are on process. There are very specific time lines under the ESA for our listing process and other responsibilities. And we are seeing some of these petitions of well over 200—300 species coming in at a time. We literally are swamped.

Dr. BRADBURY. I believe my written testimony gave you an estimate of 2010 and the investment we had to make to deal with litigation.

I think what we are all trying to say today is that, looking forward, if we can develop the scientific process, the public participation process, the focus tools to make well-informed decisions and ensure there is good public participation, we get the efficiency. So, hopefully, we can get past where we are and get to a system that is more efficient and more effective and not have to use litigation to get there.

Mr. THOMPSON. Let me in the time remaining, just for a one statement and see if you agree or don't agree. Frankly, if what you are doing, and I have heard many times best science mentioned. I don't know how many times, but a lot. If best science really is being used in administering the laws that are passed in Congress are these lawsuits a costly distraction to best public policy delivered with congressional legislative authority, would you agree with that?

Mr. SCHWAAB. I would just say this perhaps also related to the last question. While the lawsuits might drive us into review of particular circumstances, it is ultimately still the use of best available science that dictates the ultimate decision of the agency in any particular circumstance.

Dr. GOULD. We have through our budget processes looked for budgetary protection from some of these suits in that we have so much money to complete our listing processes. So there are legislative ways to resolve these issues. But ultimately, what we need to do is administratively increase our efficiency and effectiveness through multi-species consultations and that sort of thing to make

us more efficient. Hopefully, by taking those actions we can resolve some of our problems meeting the specific time lines that are outlined in the Act.

Mr. THOMPSON. My time has expired. My frustration is that I think there are frequent times that these lawsuits actually try to redefine science and that is very frustrating.

Mr. Chairman, I appreciate your tolerance and I yield back.

Mr. LUCAS. The gentleman yields back. The Chair now recognizes the gentlelady from California for a key role of potentially concluding this round of questions for this panel.

Mrs. NAPOLITANO. Since I was skipped, can I have double time? Thank you, Mr. Chair. And as the Ranking Member of the Water and Power Subcommittee, I do strongly support our government's role to protecting our waters from harmful pesticides.

According to the USGS, a report in 2006 pesticides frequently are present in streams and groundwater and have been found in some streams at levels that exceed the human health benchmark. And they occur in many streams at levels that may affect aquatic life or fish eating wildlife. And EPA has reported that 16,000 miles of rivers and streams, 1,368 miles of bays and estuaries, 370,000 acres of lakes in the United States are currently impaired or threatened by pesticides. And EPA suggest that these estimates may be low because some of the states do not monitor all the different pesticides that are currently being used.

Mr. Chairman, I ask unanimous consent to place into the record again two EPA reports that show the use of pesticides as the number one cause of impairments to water quality in my State of California. I would like to ask for an update from EPA because this is a 2006 report, but it is still a good report. This means that all the waters in California that are found through testing and monitoring to be impaired or polluted under the Clean Water Act pesticides are the most significant cause of these problems.

And I am very concerned about the effects that these pesticides have on our health of our rivers and streams drinking water supplies and thereby the health of our citizens.

It is worrisome. The House has already passed a bill to permanently exempt pesticide applications from the Clean Water Act without substantive review. I support the work of Vector control agencies to maintain the public health of our communities. I am worried that the House has overreached in deregulating other pesticide applicators that pollute our waters. We must not create an exemption from water quality protection requirements without considering the impacts to waters that are already impaired by pesticides as in my State of California.

And I can speak from the Superfund listed—in California that one of the main components of the huge contaminate underwater body was pesticides and it was several other things that came to mind and my mind is frozen. Fertilizers, plus other cold war manufacturing leftovers they were leached into the aquifer. To me those are some of the things we need to be able to ensure that we don't have.

And Mr. Cardoza asked Dr. Bradbury about the farmers use less of some of these pesticides. However, is there any data that will

show that this continued use is maybe leaching into the aquifers, thereby creating problems that we will not see for decades to come?

Dr. BRADBURY. In our risk assessments that we perform to evaluate the registration of a new pesticide or to look at existing pesticides some of the data that we get in those hundred plus studies include leaching studies, so we are taking a look at the potential of a chemical to move through the soil and to get into aquifers.

In fact, some of our preregistration decisions, our last cycle of re-evaluating compounds are a number of decisions we made to stop the use of certain pesticides because of their ability to leach into shallow aquifers it could a source of water for private wells.

Mrs. NAPOLITANO. And the waters do move into the aquifers.

Dr. BRADBURY. And that is part of the scientific analysis that we undertake.

Mrs. NAPOLITANO. And Mr. Southerland, my colleague on the other side talked about the cost of farmers and they pay for this. I think the general fund everybody pays for it and we have not had any estimates or guesstimates for that matter on the cost to the human health to the cities and the states that have to provide for those citizens to be able to take care of carcinogens that being found in children and many adults, the untreated wastewater and other factors that we know about.

One of the other questions, Dr. Bradbury, is California has a robust program that tracks pesticide usage throughout the state. In what ways is California's program distinct from others?

Dr. BRADBURY. I am sorry. I couldn't hear the very end of your question.

Mrs. NAPOLITANO. In what way is California's program distinct?

Dr. BRADBURY. The California program provides county level information in terms of pesticide use, which is very valuable and we use that data extensively.

Mrs. NAPOLITANO. Do other states use it?

Dr. BRADBURY. I don't want to speak for other states to the extent that they use that information because there is some extrapolation that needs to happen from unique settings of California and how relevant that information may be for a specific state.

Mrs. NAPOLITANO. And Mr. Schwaab, if EPA and the states provide more robust data on actual pesticide usage to the Service, would the Service be able to develop more refine measures to protect the endangered species in the future?

Mr. SCHWAAB. Yes. That is an area that we are looking at right now.

Mrs. NAPOLITANO. Would be able have information provided to this Committee so that we understand what your findings are?

Mr. SCHWAAB. Yes. We are happy to provide some follow up information regarding the nature and the extent of those discussions to date.

Mrs. NAPOLITANO. Thank you. And Mr. Chair, I would love to continue, but I would like to ensure that give these handouts that I mentioned for the record. These are very valuable. Thank you, Mr. Chair.

Mr. LUCAS. No objection. The gentlelady's time has expired. All time has expired for this panel. The Chair yields back to Chairman Hastings.

The CHAIRMAN. Thank you very much, Mr. Chairman, for conducting this hearing with this panel.

I want to thank the panel for their very valuable testimony. And I want to thank the Members for their questions. Many times there are some follow up with questions to the panel, so if you would respond in a very quick time frame I would appreciate it very much if Members have additional questions.

And I would also like to encourage this panel, although we can't compel you to, to stick around for the second panel. As you know, you are a panel made up of people that implement the law. Now the second panel who is designed for people that are affected by the law. And I hope it would be very, hopefully, instructive to you if you could hang around and hear what they have to say. There might be some synergism that we would want to follow up because we want to get the maximum amount of benefit we can out of this hearing.

So once again, I want to thank you. Under Committee Rule 4(h), the record will be open for ten business days for whatever responses need to be. And with that, I will dismiss this panel and I want to take about a four-minute recess and call the second panel. The gentleman from the Northern Marianas.

Mr. SABLAN. I just ask for unanimous consent request to submit a letter into the record from 65 nonprofit environmental groups who support the science-based solution.

The CHAIRMAN. Without objection, so ordered.

Mr. SABLAN. Thank you very much, Mr. Chairman.

The CHAIRMAN. Thank you.

[Whereupon, a four-minute recess was taken.]

The CHAIRMAN. The Committee will reconvene, and I want to warmly welcome our second panel of witnesses. We have with us Ms. Beehler, who is a district manager of the Benton County Mosquito Control District in my home state of Washington. As a matter of fact, in my district. Mr. Barry Bushue, the President of the Oregon Farm Bureau on behalf of the American Farm Bureau; Dr. Debra Edwards, Senior Managing Science, the Exponent Engineer and Scientific Consulting firm; Mr. West Mathison, President, Stemilt Growers, in Wenatchee, again in my district; Dan Newhouse, who is the Director of the Washington State Department of Agriculture, a sometime member of my district when he is not working in Olympia. And Mr. Zeke Grader, Executive Director of Pacific Coast Federation of Fishermen's Associations.

We will go right to the panel and Ms. Beehler, you are recognized for five minutes. I would remind the panelists once again that the little device in front of you is a five-minute clock. Your full statement will appear in front of the record. As long as the green light is on, you have four minutes. When the yellow light goes on, it means you have 30 seconds. And I would ask you to try to wrap up your comments. And when the red light goes on, that means the five minutes have expired. But your full statement will appear in the record.

So Ms. Beehler, you are recognized for five minutes.

**STATEMENT OF ANGELA BEEHLER, DISTRICT MANAGER,
BENTON COUNTY MOSQUITO CONTROL, DISTRICT #1**

Ms. BEEHLER. Good afternoon, Mr. Chairman, members of the Committee.

My name is Angela Beehler, and I am the Vice President of the Northwest Mosquito and Vector Control Association. I also manage the Mosquito Control District in Benton County, Washington.

I am pleased to testify on the profound effects that regulatory dysfunction can exert on public health for I take my mandate to protect the health of my community seriously. For the purpose of this hearing, I will focus on the salmon and steelhead Endangered Species Act consultations between the EPA and National Marine Fisheries Service.

Over 1 million people die worldwide each year from mosquito-transmitted diseases. While fatalities in the United States are relatively rare due to a long history of successful mosquito control programs, the cost associated with the treatment of mosquito-borne sickness runs into the millions of dollars each year. The human costs are far greater.

Alarmingly, the future of public health mosquito control is in jeopardy due to the increasing cost needed to register our pesticides, burdensome regulations of Clean Water Act permits, if enacted, and some ill-advised Endangered Species Act protections. These cost divert scarce resources away from our primary mission of protecting public health and compromise both the quality and extent of the protections we can offer the public.

All pesticides sold in the United States must be registered by the EPA in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act. As a condition of registration, the applicant must demonstrate that the use of pesticide in accordance with its label will not present any unreasonable risks to man or the environment, taking into account both the costs and the benefits of the use of that pesticide. Thus, protection for listed wildlife is already built into the statute and practiced by mosquito control personnel.

I am aware that provisions of the Endangered Species Act did not mandate that NMFS consider the public health benefits when evaluating the effects of Naled, a mosquito adulticide on Northwest salmon and steelhead.

A recent biological opinion rendered by NMFS ultimately determined that the use of Naled could jeopardize salmon and they recommended that label changes be made. However, it was evident that proper care was not taken to obtain actual usage data from public health pesticide applicators. As a result, the biological opinion grossly over estimated the amount of Malathion used for mosquito control in the Northwest, while under estimating the public health importance of this product. Unfortunately, the faulty assumptions made during the consultation could eliminate adult mosquito control over much of Washington, Oregon, and California.

When field surveys indicate that mosquito numbers are above the treatment threshold or when mosquitos in my district are found to be carrying disease, I initiate wide area spraying to reduce the numbers below a transmission threshold. It is important to note that these applications are not made directly to water, but to the air column above and the adjacent vegetation.

These vegetated areas serve as a preferred resting place for adult mosquitos. Failure to control the mosquitos in these areas will result in an increased risk of mosquito-borne disease as they migrate outward to find hosts.

I am entirely sympathetic with NMFS' fear that, without a buffer surrounding water bodies, pesticides could enter the water and kill sources of food for salmon and steelhead. However, aerial sprays applied perpendicular to the prevailing wind direction actually move pesticide away from the water body, significantly reducing the risk to aquatic and vertebras.

Over the past two years, West Nile virus infested mosquitos were found in large numbers in Washington State. As much as 61 percent of the State of Washington is critical habitat for salmon and steelhead populations. I have no doubt that spray buffers in forests at the time of these outbreaks would have cost human lives. Moreover, the quality of life for the victims that suffer long-term symptoms and their caretakers would be severely compromised.

The Endangered Species Act must be modified to make considerations for public health uses. I do not believe it was the intent of the EPA or the Services to put people at risk, but this is the consequence of the statute in its present form. The case involving Northwest salmon sets a precedent for hundreds of pesticide active ingredients in endangered species and should proceed with the utmost caution. Lives and livelihoods are at stake.

Furthermore, the consultation must be more clearly defined to reduce inconsistencies in the biological opinions. Ample time for public comment, peer reviewed scientific input, and stakeholder participation is essential if the Endangered Species Act is to full provide the benefit for which it was intended. Thank you.

[The prepared statement of Ms. Beehler follows:]

Statement of Angela Beehler, District Manager, Benton County Mosquito Control District #1, West Richland, Washington; Vice President, Northwest Mosquito and Vector Control Association, and Co-Chair, Endangered Species Act Subcommittee, American Mosquito Control Association

This testimony serves as an addition to original testimony submitted before the House Committees on Natural Resources and Agriculture on May 3, 2011 and is offered for inclusion into the Congressional Record.

The Effect of Regulatory Dysfunction on Public Health

The future of public health mosquito control is in jeopardy due to increasing costs needed to register our pesticides, burdensome requirements of Clean Water Act permits if enacted, and some ill-advised Endangered Species Act (ESA) protections. These costs divert scarce resources away from our primary mission of protecting public health and compromise both the quality and extent of protection we offer the public.

The ESA is intended to protect species that are threatened with extinction and maintain their critical habitat. The current manner in which the ESA is being implemented can impede mosquito control programs in achieving their goals, namely protecting the public's health and welfare from nuisance causing and disease carrying mosquitoes. In addition, endangered species such as Whooping Cranes and Sandhill Cranes are affected by mosquito-borne disease. Any compromise to mosquito control activities is bound to affect them as well.

EPA provides its analysis on potential environmental effects from a pesticide, including those on endangered or threatened species, to the Fish and Wildlife Service and National Marine Fisheries Service (NMFS) which are charged with administering the ESA. The Services develop and issue Biological Opinions (BiOps) reflecting their conclusions of potential impacts in addition to providing recommendations for mitigation.

The provisions of the Endangered Species Act do not mandate that NMFS assess the human health benefits when evaluating effects of pesticides on salmon and steelhead. The third BiOp rendered by NMFS ultimately determined that naled, a mosquito control adulticide, could jeopardize salmonids and recommended label changes be made. However, it was evident that proper care had not been taken to obtain actual usage information from the public health pesticide applicators. As a result, the BiOp grossly overestimated the amount of naled used by mosquito control in the Northwest, while underestimating the public health importance of this product. The assumptions made during the consultation could eliminate adult mosquito control over much of Washington, Oregon, and California.

This analysis forms the basis of Service-recommended Reasonable Prudent Alternatives and Reasonable Prudent Measures sent to the EPA for implementation. Even though the basis for the proposed mitigation measures may not be well founded, EPA is nonetheless left with implementing them. This can include significant label restrictions that preclude use of pesticide products to protect public health and welfare.

Resource shortfalls in staffing and funds make it extremely difficult for the Services to render timely BiOps. Even when BiOps are completed and opened for public comment, stakeholders are not provided adequate time to review the documents and provide meaningful feedback.

The determination of the potential impacts of public health pesticides on endangered and threatened species should be heavily dependent on the expert review performed by the EPA Office of Pesticide Programs as part of the registration review processes. The analysis and conclusions of the EPA in this regard should be strongly considered by the Services in the development of the BiOps. That analysis and conclusions should only be set aside where the Services have validated information which demonstrates that the EPA's analysis is faulty.

The Endangered Species Act must be modified to make considerations for public health uses. I do not believe it is the intent of the EPA or the Services to put people at risk, but that is the consequence of the statute in its present form. The case involving NW salmon sets a precedent for hundreds of pesticide active ingredients and endangered species and should proceed with the utmost caution. Furthermore, the consultation process must be clearly defined to reduce inconsistencies in the Biological Opinions. Ample time for public comment, peer-reviewed scientific input, and stakeholder participation is essential if the Endangered Species Act is to fully provide the benefits for which it was intended.

NMFS Overestimated Salmon Exposure to Mosquito Control Pesticides in Models

The EPA registration process fully addresses water quality impacts of adult mosquito control products. Ultra Low Volume (ULV) applications to control public health vectors at sites under conditions specifically prescribed by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) label should not be subject to further requirements under ESA. The droplet size, application timing and meteorological parameters for ULV operations are specified on the insecticide label per FIFRA. The minute size of the droplets minimizes deposition on non-targets, while facilitating both impingement on mosquitoes in flight and rapid breakdown to inert substances. Per label specification, ULV operations are subject to clearly defined meteorological parameters, i.e. wind speed (<10 MPH), high relative humidity, and temperature inversion. These help maintain the insecticide in the air column through the target area, while minimizing drift and deposition in non-target areas (Tucker et al. 1987, Tietz et al. 1994, Tietz et al. 1996).

In the third BiOp, *The Endangered Species Act section 7 consultation: biological opinion on* Environmental Protection Agency registration of pesticides containing Azinphos methyl, Bensulide, Dimethoate, Disulfoton, Ethoprop, Fenamiphos, Naled, Methamidophos, Methidathion, Methyl parathion, Phorate and Phosmet, NMFS states that "although labels specify not to apply naled directly to surface water, they do allow for drift applications to be made over a variety of salmonid habitats such as streams, rivers, lakes and tidal marshes." This statement is not accurate.

The mosquito control label for Dibrom Concentrate (naled) reads, "Do not apply over bodies of water (e.g., lakes, swamps, rivers, permanent streams, natural ponds, commercial fish ponds, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body.(EPA Reg. No. 5481-480)."

The BiOp accurately describes mosquito control applications in the statement "These applications typically occur at higher elevations (e.g. 200 feet) and smaller drop spectrums than those common to agricultural applications." However they

based their conclusions for salmon survival on concentrations from a model that releases chemical at 50 ft; “The simulations suggest mosquito application may result in aquatic concentrations that exceed 7 µg/L for the lower labeled rate, and 90 µg/L for the maximum labeled rate. NMFS. (2009).”

“We also expect concentrations of naled and phosmet to kill juvenile and adult salmon in floodplain habitats and small streams, based on NMFS modeling. We therefore evaluate the effects to populations from exposure to naled based on reduced survival.” NMFS. (2009). An application at 200 ft based on their model would result in a concentration of 3 µg/L, which is well below the toxic dose for salmon and steelhead.

A study was conducted to determine if mosquito adulticides applied along the Florida Keys cause adverse ecological effects in the Florida Keys National Marine Sanctuary (FKNMS). The study monitored the distribution and persistence of two mosquito adulticides, permethrin and dibrom (naled), during three separate routine applications by the Florida Keys Mosquito Control District. The approach was to determine if toxic concentrations of the pesticides entered the FKNMS by aerial drift or tidal transport. Naled was detected in one water column sample on the Atlantic side (0.19 µg/L), but its breakdown product dichlorvos was detected in “50% of the water samples” (range 0.08 -0.56 µg/L). At the 10–11 h post application sampling, dichlorvos was detected at 3 of the 9 sampling sites (range 0.05–0.33 µg/L.) Following the second application, naled was not detected in water column samples. Dichlorvos was detected at 2 sites (range 0.7 -0.09 µg/L), but in lower concentrations than following the first application. (Pierce et al 2005).

In a report compiled by the MOTE Marine Laboratory for Collier Mosquito Control District in Naples, Florida assessed the amount of Dibrom (naled) residues in fresh and salt water environments during normal mosquito control adulticiding conditions. This report was not available to NMFS during consultations, but demonstrates the difference between NMFS model calculations and real-world data. The highest concentration of naled detected during that study was .66 µg/L. (NMFS model predicted 7–90 µg/L) MOTE. (2010)

Water quality monitoring was conducted in Washington and California and no detections of naled were found in either study.

We evaluated monitoring data available from the California Department of Pesticide Regulation, which maintains a public database of pesticide monitoring data for surface waters in California. naled was not detected in any of the samples. Dichlorvos was detected in 0.2% of samples with a maximum concentration of 0.542 µg/L. NMFS. (2009).

Data from monitoring studies conducted in the state of Washington are included in Department of Ecology’s Environmental Information Management (EIM) database (<http://www.ecy.wa.gov/eim/>). Naled was not detected in any of the samples. The naled degradate dichlorvos was not detected in these studies either. NMFS. (2009).

NMFS attributes the lack of detections a low number of samples. In actuality, naled breaks down quickly in the environment to undetectable levels—which makes it a desirable product for locations with listed threatened or endangered species. The absence of naled in monitoring data indicates that current label protections are sufficient to protect listed species.

No Field Incidents Reported in EPA Incident Database

NMFS reviewed reported incidents of fish deaths from field observations throughout the U.S. because this information reflects real world scenarios of pesticide applications and corresponding death of freshwater fish. Large numbers of incidents in the database were attributed to azinphos methyl, **while any incidents associated with naled were considered unrelated or an unlikely cause of the event.** NMFS. (2009).

NMFS Assumption of Pesticide Use Rates in the Northwest

NMFS did not obtain actual use data from pesticide applicators or the pesticide registrants. Instead, they relied on the maximum use allowed by the pesticide label. “Use estimates for states in the Pacific Northwest suggest much greater application of naled is possible, although actual use in Idaho, Oregon, and Washington is unknown.” NMFS. (2009). “Recent usage data for naled in the Pacific Northwest are not readily available and are therefore unreported. NMFS.” (2009).

In the summary of all authorized use sites and application restrictions for active naled products registered in California, Idaho, Oregon, and Washington, NMFS stated that applicators *could* apply 10.73 lbs of naled/acre/year. In 2009, Benton County Mosquito Control District used naled applications to control West Nile virus and the combined applications amounted to .27 lb/acre. Most mosquito control districts in

the Northwest do no aerial adulticiding, and the programs that do typically budget for 1–3 applications per year. In order to apply the 10.73 lbs of naled/acre/year as mentioned in the BiOp, mosquito control districts would have to make 104 applications per year.

EPA Evaluates Risks to Endangered Species during Registration

Endangered species Levels of Concern (LOC) for naled are exceeded for birds as follows: acute risks to herbivorous birds from **all uses except for mosquito control**; acute risks to insectivorous birds from the applications on almonds, cole crops and citrus; chronic risks to herbivorous birds from the uses on almonds, cole crops, citrus and seed alfalfa; and chronic risks to insectivorous birds from the use on almonds. Endangered species LOCs for mammals are exceeded as follows: acute risks to herbivorous and insectivorous mammals from **all uses, including mosquito control**. In addition, seed-eating mammals are at risk from the almond use. Chronic risks are also a concern for herbivorous and insectivorous mammals from all uses **except for mosquito control**. The chronic risk exceedance for birds and mammals are based on maximum residues following one application and do not include degradation or dissipation of naled in the environment. In addition, endangered terrestrial invertebrates are expected to be at risk from **all uses** of naled.

There are also risk concerns for endangered aquatic species. Endangered species acute and chronic LOCs are exceeded for freshwater invertebrates from all uses. **Naled's use for mosquito control is only an acute risk to freshwater invertebrates.** The acute LOC for endangered freshwater fish is only exceeded for the uses on cole crops, citrus, and almonds and to control hornflies. The acute LOC for endangered estuarine invertebrates is only exceeded for the use on cotton; however, there are currently no federally listed endangered/threatened species for this group of animals. EPA. (2004).

EPA Benefit Assessment for Naled

Naled has been described by the CDC (Center for Disease Control) as one of the principal pesticides used for adult mosquito control in the U.S. The Environmental Protection Agency has concluded that the current uses of naled in controlling mosquitoes have a significant health benefit. EPA. (2006). It is effective against almost all species of *Aedes*, *Anopheles*, *Coquillettidia*, *Culex*, *Culiseta*, *Mansonia*, and *Psorophora*, which comprise the major nuisance and vector mosquito species in the U.S. and elsewhere in the world. **In the U.S., naled is an essential pesticide for suppression of the mosquito born encephalitis viruses.** It is also used in the U.S. and internationally for mosquito control in emergencies following hurricanes and floods, and in refugee camps for control of mosquito vectors of malaria and dengue and nuisance mosquitoes and flies.

West Nile Virus

Over the past two years, West Nile virus infected mosquitoes were found in large numbers in Washington State. Through the use of area-wide mosquito control we were able to prevent the virus from spreading from agricultural areas into residential neighborhoods. Inasmuch as 61% of the state of Washington is critical habitat for salmon and steelhead populations, I've no doubt that spray buffers enforced at the time of these outbreaks would have cost human lives. Moreover, the quality of life for victims suffering long-term symptoms and their caretakers would be severely compromised.

Paradoxically, mosquito control activities have demonstrated considerable promise in protecting populations of endangered species otherwise at risk from mosquito-borne disease. For example, West Nile virus is known to be lethal to certain birds, most notably the yellow-billed magpie found only in the central valley of California. Other endangered avians such as Sandhill Cranes and Whooping Cranes have been killed by outbreaks of other mosquito-borne encephalitides. Effective mosquito control measures may in fact lessen the incidence of these diseases help these threatened species maintain viable populations.

The mosquito control community supports a robust Endangered Species Act that will provide optimal protection to all species, both human and non-human. This requires that provisions of the statute be more solidly based on peer-reviewed science than at present. To this end, we ask that the provisions of the ESA be revised to accurately reflect the observed costs/benefits of lawful mosquito control operations. Only thus can we assure the public that both the critical needs of their families and the environment are being met.

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**Response to questions submitted for the record by Ms. Angela Beehler,
District Manager, Benton County Mosquito Control District**

QUESTIONS FROM RANKING MEMBER EDWARD J. MARKEY:

- 1. In your testimony, you state that the “determination of the potential impacts of public health pesticides on endangered and threatened species should be heavily dependent on the expert review performed by the EPA Office of Pesticide Programs.” The National Marine Fisheries Service does not engage in consultations for pesticides unless the EPA first independently determines that the registration of a pesticide may affect an endangered species. If EPA concludes that a pesticide will have no effect on an endangered species, consultations do not even occur. Do you believe that the EPA’s conclusion that the pesticide Naled may affect 10 evolutionarily significant units of endangered salmon was erroneous? If so, why?**

Ranking Member Markey, I do not believe that the EPA’s conclusion that the pesticide Naled may affect 10 evolutionary significant units (“ESU”) of endangered salmonids was erroneous. “May affect” determinations were based on the amount of Naled used in agriculture in proximity to each ESU. The EPA’s own Office of Pesticide Programs specifically addressed public health pesticides on Page 21 of the “Naled Analysis of Risks to Endangered and Threatened Pacific Salmon and Steelhead” and concluded:

Based on the information from the registrant and a local user, it is our professional judgment that naled is not an important agent in controlling adult mosquitoes in the PNW. It does not seem likely that naled will reach salmon-bearing waters in sufficient quantity to be of concern from this use. As verified by the registrant, mosquitoes do not occur in flowing waters, although they may occur in stagnant areas of streams and rivers. In lakes the mosquitoes tend to be along the edges. If any spray of naled should enter flowing waters, its rapid breakdown and the quick transport in the water flow would reduce any potential residues to levels that are not significant. The lake habitats of the two sockeye ESUs are on federal lands, and we presume they would not be sprayed with this chemical. **Based on this information we conclude that the mosquito adulticide use of naled is not likely to adversely affect any salmon or steelhead ESU through direct or indirect effects.**

NMFS should have taken this into consideration and exempted public health uses of Naled from the Biological Opinion.

2. In your testimony, you state “it was evident that proper care had not been taken to obtain actual usage information from the public health pesticide applicators.” Please provide to the committee all data that NMFS did not consider during the period between the completion of EPA’s Biological Evaluation of Naled and the NMFS’s completion of its Biological Opinion for Naled (BiOp 3).

The consultation process for pesticide registration includes only the registrants and the agencies. NMFS did not consult with the registrant of Naled for mosquito control, AMVAC, until after the draft Biological Opinion was complete. The consultation history states “On July 19, 2010, another registrant, AMVAC, whom EPA had not previously identified as an applicant, requested a meeting with NMFS and EPA regarding naled and phorate. The meeting was scheduled for July 27, 2010.”

Jeopardy determinations for Naled on 11 ESU’s were made in part because the amount of product used in Idaho, Oregon, and Washington for mosquito control was unknown and likely assumed rates consistent with agricultural uses, and not public health uses. NMFS was concerned about indirect and direct effects on salmonids because mosquito control labels allow for use over water when necessary to target areas where mosquitoes are present.

This paragraph is taken from page 648, Paragraph 3 of the Biological Opinion for Naled: Naled is unique in this group of a.i.s, because in addition to agricultural uses, it is also registered as a vector control. Based on overlap of EECs and assessment endpoints, we expect naled to cause direct sublethal and lethal effects to salmonids and to decrease salmon prey populations. Population models showed a significant decline in lambda due to both lethality and effects on growth. Agricultural uses appear likely to cause higher water concentrations than noncrop uses based on model estimates. However, some naled labels allow for mosquito adulticide applications at rates comparable to crop uses (e.g. 1.25 lbs a.i./A). **Additionally, naled may be applied over vast areas of freshwater habitats occupied by listed salmonids and the frequency of reapplication for the vector control measures are an important concern as reapplications may prevent recovery of salmonid prey for extended durations.** Overall, we believe naled poses a high risk to all ESUs/DPSs. (NMFS 2010)

First, application rates for mosquito control never exceed 0.1 lbs a.i./A. Second, actual public health pesticide use was never verified by NMFS in order to determine frequency of reapplication. The frequency of use in California was readily available through the California Pesticide Use Information Portal (CalPIP). Use in Idaho, Washington and Oregon was listed as unknown. Rather than research the actual use by public health applicators in Idaho, Oregon, and Washington, NMFS assumed that the maximum allowed applications would be made (2 per week) at the maximum application rate (.1 lbs/acre). In reality, mosquito control programs in these states conduct 1–3 applications per year at $\frac{1}{2}$ to $\frac{3}{4}$ of the allowable label rate of 0.01 pounds of a.i. per air column acre per application. The annual application rate assumed in the BiOp was 10.73 lbs/acre. A realistic assumption based on usage data would be .05-.25 lbs/acre. Actual Naled use data for the Pacific NW is shown in Table 1 and the corresponding map. This information was collected using CalPIP and by contacting mosquito control applicators.

Although this pesticide is used in greater quantities in California, only ESU’s in Idaho, Oregon and Washington were listed as “in jeopardy.” Table 2 clarifies which salmon populations EPA determined may be affected by Naled and those that NMFS found to be in jeopardy from use in the Pacific Northwest.

EPA’s summary of Naled usage can be found on page 14 of the 2004 Risk Analysis: The IRED provided national usage data for 1987 to 1997 indicating that approximately one million pounds of naled are used annually, with 70 percent for mosquito/black fly control, 28 percent for agricultural uses, and 2 percent for pet collars. The use information was updated in July 2003, after the issuance of the IRED, by OPP’s Biological and Economics Analysis Division (BEAD). The updated information covers national usage from 1992 through 2001. The total U.S. poundage is unchanged and the major use is still for mosquito control (71 percent of the total use). (EPA 2004)

Had NMFS consulted AMVAC prior to issuing the BiOp, they would have established that less than ten percent of the mosquito control Naled is used west of the Rocky Mountains. The OPP consulted AMVAC during the Biological Evaluation and concluded that “Based on the confidential marketing information they gave me, and looking at the application rates on the labels, we estimate that the naled products treat from 5,000 acres to 60,000 acres in Washington, Oregon and Idaho combined.” (EPA 2004) Due to the small amount of product applied, the EPA determined that public health uses of Naled are not likely to adversely affect salmonids.

Since the 2004 Risk Assessment, Naled use in the Northwest increased. West Nile virus, a mosquito transmitted illness, was epidemic in Washington, Oregon and Idaho from 2006–2010. During that time, these three states used an average of 12,100 lbs Naled per year. If each mosquito control program used the minimum label rate, over 240,000 acres could have been treated. While the usage increased substantially due to the threat of disease, these states still account for less than 2% of the EPA's estimated national use. Data provided by AMVAC in Table 3 provides the amount of product sold in CA, ID, OR, and WA for public health uses from 2007–2010. Table 3 also shows the amount of acreage that was likely covered by the product based on the low label rate (.05 lbs a.i./acre) and mid-label rate (.075 lbs. a.i./acre).

The question remains, “How much Naled is used within salmonid habitat in the Pacific Northwest?” Table 4 lists the species that NMFS identifies as in jeopardy from the use of Naled and the Counties where applications could coincide with those populations. This information can be used to determine how much product was used near salmon spawning or migration. For example, in 2009, 44,439 lbs of Naled were used for mosquito control in the Northwest. Four Counties (Benton, Morrow, Umatilla and Union) used Naled within the ESU's at a total of 14,087 lbs. These applications are carefully engineered so as to treat the air column above the acre and not the acre itself. The treatment areas are largely terrestrial and not salmonid habitat.

In conclusion, of the 11 populations of salmon and steelhead that NMFS determined to be in jeopardy from the use of Naled, only 4 occur within Counties that use Naled to protect public health. The mosquito control programs that conduct these applications use Naled as part of an Integrated Pest Management plan, and conduct less than 5 applications of Naled per year. I strongly urge NMFS to revisit the Biological Opinion for Naled and take the data I have provided into consideration. Naled is an important and effective tool for controlling mosquitoes. When used according to the current label specifications it is not a threat to listed species.

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Table 1: Pounds of Naled Used for Mosquito Control in the Pacific Northwest by County

Public Health Naled Use for the Pacific NW										
County	State	2004	2005	2006	2007	2008	2009	2010	Total	
Butte	CA	3,613	8,393	6,657	12,232	7,187	3,894	NA	41,976	lbs
Colusa	CA	2,474	4,680	1,796	1,628	1,363	336	NA	12,277	lbs
Fresno	CA	-	-	54	-	-	-	NA	54	lbs
Placer	CA	-	-	-	-	-	4,232	NA	4,232	lbs
Sacramento	CA	-	-	543	-	767	773	NA	2,083	lbs
San Joaquin	CA	1,302	5,914	890	10,221	27,007	814	NA	46,148	lbs
Shasta	CA	-	814	488	-	-	-	NA	1,302	lbs
Sutter	CA	9,659	6,799	4,619	9,723	6,701	5,538	NA	43,039	lbs
Yolo	CA	-	-	4,069	1,311	2,442	1,312	NA	9,134	lbs
Yuba	CA	1,451	-	598	7,234	3,448	5,606	NA	18,337	lbs
Ada	ID	-	-	6,336	-	-	-	-	6,336	lbs
Bear Lake	ID	-	-	-	-	-	181	198	379	lbs
Canyon	ID	-	-	3,762	2,376	-	-	-	6,138	lbs
Elmore	ID	-	-	4,813	-	-	-	-	4,813	lbs
Payette	ID	-	-	-	-	-	792	-	792	lbs
Teton	ID	-	-	-	-	-	1,835	990	2,825	lbs
Baker	OR	-	-	405	-	3,168	3,960	3,168	10,701	lbs
Malheur	OR	-	-	-	-	-	720	800	1,520	lbs
Morrow	OR	-	-	-	-	-	929	-	929	lbs
Umatilla	OR	NA	NA	151	-	983	4,842	324	6,300	lbs
Union	OR	-	346	734	1,404	1,296	1,980	3,564	9,324	lbs
Adams	WA	NA	NA	285	244	139	360	259	1,286	lbs
Benton	WA	-	-	-	-	-	6,336	3,168	9,504	lbs
Grant *	WA	NA	NA	NA	NA	NA	-	-	NA	lbs
Total		18,498	26,946	36,201	46,373	54,501	44,439	12,471	239,429	lbs

*Grant County used Naled prior to 2009, but lbs used were not readily available.

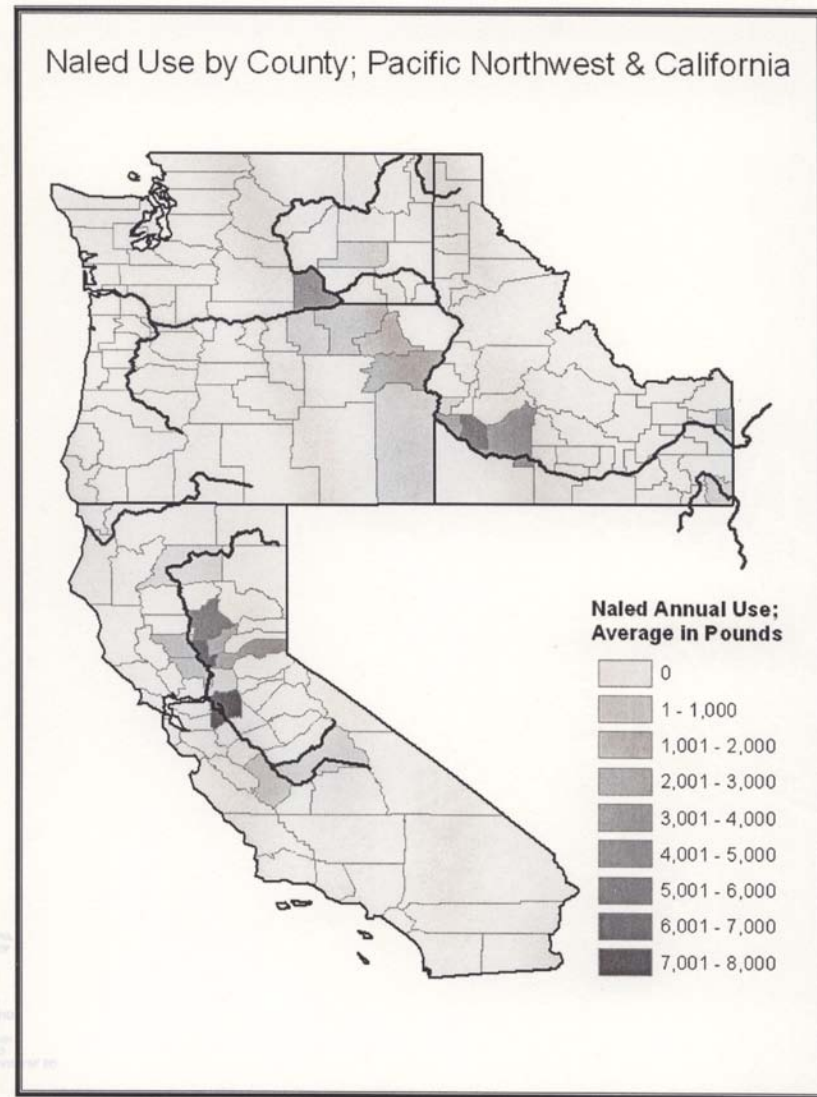


Table 2: Summary of the effects determinations based on the EPA Risk Analysis and the NMFS BiOp.

Species	ESU	EPA Determination	NMFS Determination
Chinook	California Coastal	No effect	
	Central Valley Spring –run	No effect	
	Lower Columbia River	LAA	Jeopardy
	Upper Columbia River Spring- run	LAA	Jeopardy
	Puget Sound	LAA	Jeopardy
	Sacramento River Winter - run	No effect	
	Snake River fall – run	LAA	
	Snake River Spring/Summer- run	LAA	
Chum	Upper Willamette River	LAA	
	Columbia River	NLAA	Jeopardy
	Hood Canal summer-run	NLAA	Jeopardy
Coho	Central California Coast	No effect	
	Lower Columbia River	Not evaluated	Jeopardy
	Southern Oregon and Northern California Coast	NLAA	
Sockeye	Ozette Lake	No effect	
	Snake River	NLAA	Jeopardy
Steelhead	Central California Coast	NLAA	
	Lower Columbia River	NLAA	Jeopardy
	Northern California	No effect	
	Middle Columbia	LAA	Jeopardy
	Pugct Sound	Not Evaluated	Jeopardy
	Snake River	LAA	
	South Central California Coast	NLAA	
	Southern California	NLAA	
	Upper Columbia River	LAA	Jeopardy
	Upper Willamette River	LAA	

Table 3: Maximum Acreage Treated with Naled in the Pacific Northwest

Year	State	Lbs	Acres at 0.50 lb/AI/Acre	Acres at 0.75 lb/AI/Acre
2007	CA	56,160	1,123,200	748,800
	ID	nd	nd	nd
	OR	1,080	21,600	14,400
	Total	57,240	1,144,800	763,200
2008	CA	21,240	424,800	283,200
	ID	1,680	33,600	22,400
	OR	360	7,200	4,800
	Total	23,280	465,600	310,400
2009	CA	33,120	662,400	441,600
	ID	3,120	62,400	41,600
	OR	12,180	243,600	162,400
	WA	8,400	168,000	112,000
	Total	56,820	1,136,400	757,600
2010	CA	9,720	194,400	129,600
	OR	6,300	126,000	84,000
	Total	16,020	320,400	213,600

Provided by the registrant, AMVAC

Table 4: Counties that use Naled for Mosquito Control within ESU's where NMFS Determined Jeopardy

Species	ESU found to be in Jeopardy	Counties with Possible Spawning/Naled Interaction	Counties with Possible Migration/Naled Interaction
Chinook	Lower Columbia River	No Interaction	
	Puget Sound	No Interaction	
	Upper Columbia River- Spring run	Benton, WA	
Chum	Hood Canal Summer-run	No Interaction	
	Columbia River	No Interaction	
Coho	Lower Columbia River	* Geographic distribution is described as "Coho populations spawning in tributaries below the Bonneville Dam." This could include Benton, Morrow, Grant and Umatilla Counties.	
Sockeye	Snake River	No Interaction	
Steelhead	Lower Columbia River	No Interaction	
	Middle Columbia River	Morrow, OR Union, OR Benton, WA	
	Puget Sound	No Interaction	
	Upper Columbia River	Benton, WA	Morrow, OR Umatilla, OR

Distribution maps found at www.nwr.noaa.gov

* Map is not yet available; Geographic distribution taken from the Status Review for LCR Coho Salmon

The CHAIRMAN. That is absolutely incredible timing. Thank you very much for that.

Mr. Bushue, you are recognized for five minutes.

STATEMENT OF MR. BARRY BUSHUE, PRESIDENT, OREGON FARM BUREAU TESTIFYING ON BEHALF OF THE AMERICAN FARM BUREAU FEDERATION

Mr. BUSHUE. Chairman Lucas, Chairman Hastings and members of the Committee I want to thank you for holding this important hearing today.

My name is Barry Bushue. I am here as a farmer and I am privileged to represent Oregon Farm Bureau as its President and the American Farm Bureau Federation as its Vice President.

My farm is located approximately 20 miles due east of Portland, Oregon. My wife and I started a diverse horticultural operation where we raise ornamental nursery stock, bedding plants, flowering baskets, vegetables, berries, and pumpkins that are destined for both retail and wholesale markets.

Our markets are far from certain and are impacted by competition and the overall state of the economy, but nothing is more costly or devastating than a crop loss. There are times when the only way we can save or protect a crop is by using crop-protection products. The availability of these products is important, not only to my farm but to agriculture in general. The farm community relies on the judicious use of these products based on labeled rates as determined by FIFRA.

The Farm Bureau has concerns with the BiOps resulting from the consultation between EPA and NMFS. I attended a meeting in Portland, Oregon, hosted by NOAA to discuss the BiOps and the methods used to make its determinations. After hearing from scientists who developed the BiOps, in the ensuing discussion it became clear that our concerns about the hypothetical and inaccurate data used in the BiOps were justified.

I was frankly stunned by the reluctance and even refusal to utilize the actual use data available from the Department of Agriculture and other sources in the development of these BiOps. Scenarios using maximum rates for the maximum number of applications for all crops listed on the label clearly do not reflect real world conditions or an accurate picture of use data for a study area.

Assumptions were incorporated for crops not raised in the Northwest. Some assumptions were apparently made based on superceded labels that weren't even accurate at the time of the studies. Perhaps even more egregious was the use of a static pond model for drift and exposure data. A 6-inch deep static pond is a far cry from the moving streams that salmonid inhabit. These extremely conservative, worst-case scenario assumptions and flawed modeling do nothing to help agriculture or salmon.

The results of the BiOps are buffers that far exceed those incorporated on the labels by EPA. The existing buffers on labels were developed by a competent and experienced team of EPA scientists. The buffers on the label for chlorpyrifos are 25 feet for ground and 150 feet for aerial. In contrast, NMFS has indicated that the buffer for this insecticide should be 500 feet for ground and 1000 feet for aerial.

To put this into perspective, my home farm is approximately 980 feet long. It borders an intermittent stream that is part of a basin system that supports salmonid. Five hundred feet is seven-and-a-half acres, or more than half of my retail production. If an aerial application is required, the BiOp would block the use of critical crop protections on my entire retail farm.

Economics has to be part of any sustainable farm. To put any farm at risk due to the use of flawed and inaccurate data is unforgivable. And scenes like those occurring in Oregon and the Pacific Northwest have the potential to be played out throughout the United States. In fact, the Center for Biological Diversity has filed a lawsuit in the Federal District Court alleging that EPA violated ESA Section 7 by failing to consult with either the Fish and Wildlife Service and NOAA Fisheries on 381 products for their possible effects on 214 species listed under ESA that will impact every single state, except Alaska.

The duplication of the risk assessment requirements for crop protection registration by EPA and for Section 7 consultation by the Services is a prime example of the duplication and waste that exist in our Federal Government. Because both FIFRA and the ESA specifically require EPA and the Services, respectively to perform risk assessment procedures, we submit that legislation is needed to reconcile the roles of these respective agencies and to mesh two risk assessment requirements into one.

A starting point for discussion might be counterpart regulations that were promulgated in 2004. The process is hopelessly broken. It cannot and has not worked in an effective way for anyone—growers, regulators, or endangered species. Congress must intervene. Implementation of the existing or any future BiOp should be stopped until another effective solution is found. No individuals are more important for the protection and preservation of salmon habitat than those of us who manage the land. By imposing blunt instrument restrictions that are so unrealistic and unnecessarily conservative you alienate the very people that are the most critical for salmon protection, generally.

The Farm Bureau stands ready to assist you in finding a workable solution to this problem.

[The prepared statement of Mr. Bushue follows:]

Statement of Barry Bushue, President, Oregon Farm Bureau, and Vice President, American Farm Bureau Federation, on behalf of the American Farm Bureau Federation

Chairman Lucas, Chairman Hastings, Ranking Member Peterson and Ranking Member Markey, thank you for holding this important hearing today.

My name is Barry Bushue. I am here as a farmer, and am privileged to represent Oregon Farm Bureau as President and American Farm Bureau as Vice President.

My farm is located approximately 20 miles East of Portland, Oregon. I am the third in my family's history to own and operate the farm. My wife and I started a diverse horticultural operation where we raise ornamental nursery stock, bedding plants, flowering baskets, vegetable starts, strawberries, raspberries, tomatoes, various vegetables and pumpkins that are destined for both retail and wholesale markets. We farm less than 70 acres and our primary retail operation, including an on-farm market, is on the "home farm" that is comprised of fewer than 14 acres. We are also involved in our local Farmers Market.

Our retail operation has been successful because of our commitment to our local community and the environment, our attention to detail, and most importantly, a consistently high quality product.

Quality does not come easily. Nutrients, water and other inputs must be monitored regularly. The environment in the greenhouses must be monitored and regulated. Managing for pests is constant and critical.

We use a variety of pest management tools on our farm, including mechanical, biological and chemical methods, and our strategies for different commodities vary depending on their needs and market. Crop rotations, watering schedules, cover crops and cultivation methods are all important. In addition, recycling of water in our nursery container yard and grass strips for water control are all integral to our farm, and, as a member of the Local Advisory Committee, I participated in the development of the Agricultural Water Quality Management Plan for the Clackamas River Basin for the Oregon Department of Agriculture. My experience is typical of many farms in Oregon and the Northwest.

We have a tremendous capital investment in plants, greenhouses, equipment, personnel, irrigation systems, land and buildings. We have clearly made a commitment to sustainability and to the future of our farm for generations to come. There is nothing more sustainable than a productive farm that supports generation after generation.

Our markets are far from certain and are impacted by competition and the overall state of the economy, but nothing is more costly or devastating than a crop loss.

There are times when the only way we can save or protect a crop is by using crop protection products. The availability of these products is important not only to my

farm but to agriculture in general. The farm community relies on the judicious use of these products based on labeled rates as determined under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), which is administered by the Environmental Protection Agency (EPA). The label is the law.

It is incumbent on the pesticide registrant to provide data sufficient for the EPA to make the scientific evaluation that the product may be used for its intended purpose (according to the label) without presenting any unreasonable adverse effect on humans, the environment or non-target species, including species listed under the Endangered Species Act (ESA).

Tremendous amounts of money and time have gone into the development of these products and the scientific data utilized to register these products. This includes not only toxicological studies on vertebrates and invertebrates but also environmental risk assessments.

Farm Bureau has concerns with the Biological Opinions (BiOps) resulting from the consultation between EPA and the National Marine Fisheries Service (NMFS), which is part of the National Oceanic and Atmospheric Administration (NOAA Fisheries of the U.S. Department of Commerce). The BiOps were prepared as a result of litigation brought by activist groups against EPA, alleging that EPA's registrations of pesticides under FIFRA violated the ESA, because the pesticides had allegedly adversely affected 26 "evolutionarily significant units" of salmon in the Pacific Northwest, including in Oregon, where our farm is located. I attended a meeting in Portland, Oregon hosted by NOAA to discuss the BiOps and the methods used to make its determinations. There were representatives from Oregon, Washington, California and Idaho, including Departments of Agriculture, individual farmers and commodity groups.

After a lengthy presentation from the NOAA scientists who developed the BiOps and the ensuing discussion with them and the larger group, it became clear that our concerns about the hypothetical and inaccurate data used in the BiOps were justified. I was stunned by the reluctance and even refusal to utilize the actual use data available from Departments of Agriculture and other sources in the development of the BiOps. Scenarios using maximum rates for the maximum number of applications for all crops listed on the label clearly do not reflect real-world conditions or an accurate picture of use data for a study area. Assumptions were incorporated for crops not raised in the Northwest. Some assumptions were made based on superseded labels that weren't even accurate at the time of the studies. Perhaps even more egregious was the use of a static pond model for drift and exposure data. A six-inch deep static pond is a far cry from the moving streams that salmonids inhabit. These extremely conservative worst-case scenario assumptions and flawed modeling do nothing to help agriculture or salmon.

In a follow up meeting with James Lecky, Director, Office of Protected Resources in NOAA, my concerns were not abated by his assertion that NOAA needed to use the most conservative assumptions and modeling in order to forecast all possible use scenarios 15 years out. Forecasting based on flawed assumptions instead of actual use and real life data puts my farm, and our entire industry, at risk. They are certainly not compatible with farm sustainability.

Additionally, the modeling did not appear to incorporate any appreciation or consideration for the huge investment from farmers, departments of agriculture, soil and water conservation districts and USDA, through NRCS and FAS, in on-the-ground conservation work and riparian area work already done to improve water quality and conditions on the land that impact it.

The Oregon Department of Agriculture has active water quality programs to address pesticide issues, and, in conjunction with the Oregon Department of Environmental Quality, coordinates successful Pesticide Stewardship Partnerships with growers.

The results of the BiOps are buffers that far exceed those incorporated on the labels by EPA. The existing buffers on labels were developed by a competent and experienced team of EPA scientists. The buffers on the label for Lorsban Advanced (chlorpyrifos) are 25 feet for a ground boom and 150 feet for aerial. In contrast NMFS has indicated that the buffer for this insecticide should be 500 feet for ground and 1000 feet for aerial. Similar scenarios run by the Pesticides Division of the Oregon Department of Agriculture show similar overzealous buffers for Diazinon at 575 feet and Malathion at 175 feet, both for ground application. Aerial applications are at 1000 feet.

To put this into perspective, my home farm is approximately 980 ft long. It borders an intermittent stream that is part of a basin system that supports salmonids. Every 67 feet is the equivalent of an acre. An acre represents approximately five tons of strawberries, two tons of raspberries, up to 7,500 trees, tons of tomatoes, beans, pumpkins and untold other crops. 500 feet is 7.5 acres or more than half of

my retail production. If an aerial application is required, the BiOp would block the use of critical crop protectants on my entire farm. Economics has to be part of any sustainable farm. To put any farm at risk due to the use of flawed and inaccurate data is unforgivable.

No individual is more important to the protection and preservation of salmon habitat than the grower who manages the land. By imposing blunt-instrument restrictions that are so obviously flawed, unrealistic and unnecessarily conservative, you alienate the very people that are the most critical for salmon protection.

The BiOps stemming from this one lawsuit will eventually deal with 37 pesticides. To a minor crop producer in a state that raises more than 220 commodities, every tool is important. Rotation and resistance management are critical key to any successful operation.

Scenes like those occurring in Oregon and the Pacific Northwest have the potential to be played out throughout the United States.

The stark reality is that, although EPA has determined that each pesticide it registers will not cause unreasonable adverse effects on the environment, it has consulted with NMFS or the U.S. Fish and Wildlife Service (FWS) on only a very few crop protection registrations so far. EPA's alleged failure to comply with procedures under the ESA leaves the registrations exposed to legal challenge by groups bent on curtailing pesticide use.

In fact, the Center for Biological Diversity (CBD) has filed several lawsuits seeking to halt pesticide use due to EPA's alleged failure to comply with the procedural requirements of the ESA when it registers pesticides. Most recently, CBD filed suit in the Federal District Court for the Northern District of California alleging that EPA violated ESA § 7(a)(2) by failing to consult with either the FWS or NOAA Fisheries (collectively, the Services) on registrations of at least 381 pesticide products used throughout the country for their possible effects on 214 species listed under the ESA. Neither EPA nor the Services have the money or the staff to conduct consultations for every registered crop protection product.

Many of the problems that have spawned this current regulatory quagmire stem from the fact that both FIFRA and the ESA require EPA and the Services, respectively but duplicatively, to conduct these reviews.

FIFRA¹ requires prospective pesticide registrants to provide voluminous data to the EPA before a product may be registered. Some of the data required by EPA are studies on the impacts of prospective products on species that are listed under the ESA². EPA conducts risk assessments on the possible impacts of proposed products on plant and animal species, including listed species, as one factor in its consideration whether and under what conditions to register a pesticide product. Once a product is registered, FIFRA provides for re-registration in order to assure the continued safety of the product.

Similarly, the ESA also contains a process by which a federal agency (such as EPA) consults with FWS or NMFS to ensure that any action the agency authorizes, funds or carries out is not likely to adversely affect wildlife species protected by the ESA. In the course of this consultation process, FWS and NMFS are supposed to conduct evaluations of the proposed agency action, very similar to the risk assessments already undertaken by EPA in the registration or re-registration of crop protection products.

Under any circumstances, risk assessments are expensive, time-consuming and data-intensive exercises. Current procedures are duplicative. They require that EPA and the Services both conduct essentially the same risk assessments for the same products on the same species. All three agencies conduct thorough and comprehensive assessments on listed species. All three agencies have the scientific expertise to perform their respective assessments. All three agencies have developed information and data that would be useful to the others, but which are not shared. EPA and the Services effectively duplicate each other's work. Having two or possibly three agencies repeating the same work is redundant, inefficient and a waste of taxpayer money. It also leads to the regulatory gridlock confronting farmers and ranchers as a result of the failure of these agencies to reconcile their procedures.

President Obama's Executive Order 13563, "Improving Regulation and Regulatory Review," requires federal agencies to identify outdated, overlapping and redundant regulations and regulatory processes as a means to streamline government and make it work more efficiently. In times of fiscal constraint and tighter agency budgets, eliminating agency duplication and waste is even more important.

The duplication of the risk assessment requirements for crop protection registration by EPA and for section 7 consultation by the Services is a prime example of

¹ 7 U.S.C. 136 et seq.)

² 16 U.S.C. 1531 et seq.

the duplication and waste that exists in our federal agencies. Both EPA and the Services have legitimate roles to play by virtue of the responsibilities that Congress has given them in the FIFRA registration process and in the ESA section 7 consultation process. Good government demands that EPA and the Services get together to determine how best to work with one another to satisfy the missions of both FIFRA and ESA through one, joint process.

Let us be clear. We are not proposing to strip away any protections from either FIFRA or the ESA. We are simply proposing that two redundant procedures be meshed into one. It is not a FIFRA issue or an ESA issue. It is a good government issue.

Because both FIFRA and the ESA specifically require EPA and the Services, respectively, to perform risk assessment procedures, we submit that legislation is needed to reconcile the roles of these respective agencies, and to mesh two risk assessment requirements into one. A starting point for discussion might be counterpart regulations that were promulgated in 2004 between the EPA and the Services that were partially set aside in another lawsuit brought by activist groups, because of their perceived inconsistency with the existing statutes.

Farm Bureau stands ready to assist you in finding a workable solution to this problem.

**Response to questions submitted for the record by Mr. Barry Bushue,
President, Oregon Farm Bureau**

FROM RANKING MEMBER EDWARD J. MARKEY:

Question 1

In your testimony, you state that you were “stunned by the reluctance and even refusal to utilize the actual use data available from Departments of Agriculture and other sources in the development of the BiOps.” Please provide copies to the Committee of all data and other sources of information that you believe that the National Marine Fisheries Service (NMFS) ignored during the development of the biological opinions (BiOps) between 2004 and 2009. For data not in your possession, please provide accurate citations to the data and other information that NMFS ignored during this time period.

Response:

a) Data for USDA NRCS contributions are listed in the response to Question 2 below.

b) Water monitoring data were provided to NMFS from WA, CA and OR (data from Oregon appears to have been provided later in the BiOp process). State agency staff were told at meetings that state generated data would be “considered”, although it is entirely unclear how it was “considered” (a vague term) and what impact it made on the analysis. State Agency staff were also told at meetings that the data could not be used because it was not clear to NMFS which data, if any, were collected from “off-channel habitats” and floodplains. According to NMFS, this is critical habitat for young salmonids. Please note when water samples are collected, they are typically collected from “representative areas.” “Representative areas” are commonly thought of as areas with flowing water, rather than water from possibly stagnant or pooled water areas from off-channel habitats/flood plains. The URL for the Oregon Department of Environmental Quality Oregon Laboratory Analytical Storage and Retrieval (LASAR) database is <http://deq12.deq.state.or.us/lasar2/>.

Point 2: Pesticide Use Data was provided by both Washington and California. Washington also provided land cover data. I do not have URLs for these data sets.

Question 2

In your testimony, you also state that efforts were made in Oregon by USDA through the NRCS and FAS “to improve water quality and conditions on the land that impact it.” Please provide to the Committee all data that demonstrate where and how water quality conditions have improved within the State as a result of these efforts, and explain how the NMFS should have considered this information.

Response:

An account of activities made in Oregon to improve water quality and conditions that impact it through NRCS and its partners (generally Soil and Water Conservation Districts) for 2010 is listed below. This information came from <http://ias.sc.egov.usda.gov>. This table below is an example of one year's worth of records from the website. If needed NMFS could work with the NRCS to provide a summary of multiple years of data to help NMFS characterize activities being implemented

to improve water quality and conditions on the land. The numbers in the table are not additive, as many times, two or three practices will be installed on the same acres to achieve the full effect (example, cover crop and conservation crop rotation or irrigation system and irrigation water management). This provides a summary of efforts by landowners through the help of NRCS and FSA to do activities to improve water quality and conditions on the land that impact it. This table does not take into account activities completed by landowners through their own funds and efforts or other programs not linked to the NRCS (for example, the Oregon Watershed Enhancement Board Grant program, and EPA 319 grant program).

NRCS and FSA are not funded to collect data that demonstrate where and how water quality conditions have improved within the state as a result of these efforts. Measurements of water quality conditions in Oregon are primarily collected by the Oregon Department of Water Quality (DEQ) and can be found at <http://www.deq.state.or.us/lab/wqm/wqimain.htm>. Data collected by DEQ is not suitable for establishing the impact of efforts by programs such as the NRCS and FSA but rather looks at the cumulative impacts of all uses and programs.

NMFS should consider these efforts as they indicate a huge effort by landowners to address water pollution by controlling sediment, creating buffers to filter water, and developing riparian zones. All of these contribute to addressing transport of material to streams that may be toxic to fish.

<u>Water Quality Practices (NRCS Practice Code)</u>	<u>Quantity</u>
Above Ground, Multi-Outlet Pipeline (431) (ft)	7830
Access Road (560) (ft)	17022
Animal Trails and Walkways (575) (ft)	4093
Anionic Polyacrylamide (PAM) Application (450) (ac)	14
Composting Facility (317) (no)	4
Composting Facility (317) (no)	4
Conservation Cover (327) (ac)	5371
Conservation Crop Rotation (328) (ac)	35282
Cover Crop (340) (ac)	10808
Critical Area Planting (342) (ac)	548
Deep Tillage (324) (ac)	214
Field Border (386) (ac)	24
Filter Strip (393) (ac)	431
Grassed Waterway (412) (ac)	6
Heavy Use Area Protection (561) (ac)	17
Hedgerow Planting (422) (ft)	7625
Integrated Pest Management (595) (ac)	26525
Irrigation System, Microirrigation (441) (ac)	847
Irrigation System, Sprinkler (442) (ac)	5668
Irrigation System, Surface and Subsurface (443) (ac)	345
Irrigation Water Conveyance, Pipeline, (430AA-HH) (ft)	333608
Irrigation Water Management (449) (ac)	15812
Mulching (484) (ac)	113
Nutrient Management (590) (ac)	15812
Pipeline (516) (ft)	126111
Pond (378) (no)	18
Pumping Plant (533) (no)	98
Residue and Tillage Management, Mulch Till (345) (ac)	7579
Residue and Tillage Management, No-Till/Strip Till/Direct Seed (329) (ac)	19148
Residue Management, Seasonal (344) (ac)	149
Riparian Forest Buffer (391) (ac)	1448
Riparian Herbaceous Cover (390) (ac)	66
Roof Runoff Structure (558) (no)	7
Spring Development (574) (no)	63
Streambank and Shoreline Protection (580) (ft)	2160
Structure for Water Control (587) (no)	3668
Subsurface Drain (606) (ft)	570
Total Waste Storage (313, 317, 359) (no)	19
Underground Outlet (620) (ft)	5112
Waste Storage Facility (313) (no)	15
Waste Transfer (634) (no)	6
Waste Utilization (633) (ac)	9351
Waste Utilization (633) (ac)	28394
Watering Facility (614) (no)	203
Wildlife Watering Facility (648) (no)	7
Windbreak/Shelterbelt (380, 650) (ft)	5731

The CHAIRMAN. Thank you very much Mr. Bushue. Dr. Edwards, you are recognized for five minutes.

STATEMENT OF DR. DEBRA EDWARDS, Ph.D., SENIOR MANAGING SCIENTIST, EXPONENT ENGINEER AND SCIENTIFIC CONSULTING

Dr. EDWARDS. Thank you and good morning. I appreciate the opportunity to testify today.

My name is Debra Edwards and I am the former Director of EPA's Office Pesticide Programs. I am currently employed by Exponent, a scientific consulting firm. I am also engaged with Texas A&M University as an independent contractor.

In 2001, a coalition of environmental organizations filed a lawsuit against EPA for failure to consult with the National Marine Fisheries Service on the effects of 54 pesticides on endangered and threatened salmon species in the Pacific Northwest.

In 2002, the Court ordered EPA to initiate consultation with the Fisheries Service on the pesticides named in the lawsuit by December of 2004. EPA fully complied with that court order. In 2007, another lawsuit was filed. This time against the Fisheries Service for unreasonable delay in completing the consultations that were requested by EPA.

On July 31, 2008, the Fisheries Service provided EPA with its first 482-page draft biological opinion, which included broad species jeopardy findings for the three organophosphate insecticides. After some negotiation, the Fisheries Service ultimately agreed to allow only 46 calendar days for EPA review of the draft opinion.

On September 15, 2008, I signed EPA's formal comment letter to the Fisheries Service regarding their July 31 draft opinion. In that letter I expressed a number of concerns related to data selection and the lack of transparency regarding the scientific methodology used to develop the opinion. Specifically, the opinion provided no target levels of exposure that would not result in jeopardy. It didn't address current pesticide use patterns.

It assumed routine, unlawful misuse. It included unrealistic assumptions regarding concurrent use of multiple insecticides at the same time in the same location. It didn't take into account data that were provided regarding actual product usage in California and Washington. It relied upon outdated water quality monitoring data. It made incorrect assumptions regarding the manner in which pesticides are aerially applied for mosquito adulticide control.

And finally, it lacked transparency in the methods, the underlying data, the assumptions, and the calculations associated with the population model, such that neither EPA nor the public were able to reproduce the model outputs.

In November of 2008, the Fisheries Service issued its final biological opinion for the three pesticides. The final opinion continued to include broad jeopardy findings and also specified if reasonable and prudent alternatives to avoid jeopardy, including large spray drift buffers. Two and a half years later, despite more litigation and numerous interagency meetings and communications this biological opinion has not been implemented.

The National Academy of Sciences review that has been discussed here today is likely to require at least 18 months, as you have been told. But that does not include the time it will take the Services and EPA to begin to implement its recommendations.

In the meantime, if EPA is mandated to proceed to cancellation of a pesticide for which a biological opinion already exists that cancellation process will also likely take at least 18 months and constitute a significant resource commitment for EPA's pesticide program.

Further, I believe there is a reasonable likelihood that such a cancellation proceeding would be unsuccessful due to the many scientific uncertainties and the lack of transparency associated with existing biological opinions, plus nearly a decade after the 2001 lawsuit was filed against EPA no meaningful resolution appears likely for at least several more years.

In addition to my concerns regarding the scientific transparency of the existing biological opinions, I am concerned for the future sustainability of the pesticide ESA consultation process in general. There are more than 900 pesticide active ingredients and nearly 20,000 pesticide products registered for use in the United States. Under the current consultation paradigm each use pattern for each product must be reevaluated every 15 years, taking into consideration each geographic use area and each of the approximately 1,200 listed endangered or threatened species or their critical habitat within each use area.

This complex, multi-faceted pesticide use situation will require literally hundreds of thousands of analyses and decision points and in my opinion constitutes a significant resource challenge for the departments and the agency involved.

I hope my remarks today have helped to illustrate the degree to which the ESA consultation process for pesticides needs attention, both from a scientific and a process prospective. Thank you.

[The prepared statement of Dr. Edwards follows:]

**Statement of Debra Edwards, Ph.D., Senior Managing Scientist,
Exponent Engineer and Scientific Consulting**

Good morning Chairman Doc Hastings, Chairman Frank Lucas, Ranking Members Markey and Peterson, and members of the committees.

Thank you for the opportunity to testify on this important topic today. I hope that my participation will help to focus Congressional attention on the need for an improved Endangered Species Act (ESA) consultation process for pesticides.

My name is Debra Edwards and I am the former director of EPA's Office of Pesticide Programs. I joined EPA's Pesticide Program in 1985 as an Environmental Scientist and retired from the position of Program Director in 2010. In 2009, I was honored to receive the Presidential Rank Award for Meritorious Service as a Senior Executive. In my career with the Agency, I held several other leadership positions within the Pesticide Program in both scientific and regulatory areas, including Director of the Special Review and Reregistration Division, Director of the Registration Division, Associate Director of the Antimicrobial Division, Associate Director of the Health Effects Division, and Chief of both the Risk Characterization and Analysis and Chemistry/Tolerance Support Branches within the Health Effects Division. From 1997 to 1999, the Agency granted me "leave without pay" status so that I could volunteer for service in the United States Peace Corps. I served in Guatemala as an Agricultural Extension Specialist and taught courses in pesticide safety, U.S. pesticide regulation, and sustainable agriculture. Prior to joining EPA, I earned a Ph.D. in Plant Pathology from The Ohio State University and completed a post-doctoral appointment at USDA's Pesticide Degradation Laboratory.

I am currently employed as a Senior Managing Scientist within the Chemical Regulation and Food Safety Center of Exponent, an engineering and scientific con-

sulting firm with headquarters in Menlo Park, California. I am also engaged with Texas A&M University's Norman E. Borlaug Institute for International Agriculture as an independent contractor, working on sanitary and phytosanitary capacity building activities related to pesticide registration and use in developing countries.

I'd like to begin by explaining what the Environmental Protection Agency does, routinely, as part of its pesticide registration and periodic re-evaluation activities to assess and manage identified risks to non-target organisms, including birds, mammals, plants, fish and other terrestrial and aquatic wildlife. Within the Pesticide Program headquarters office in Arlington, Virginia, there are approximately 75 toxicologists, biologists, chemists and environmental modelers working within the Environmental Fate and Effects Division. These scientists use publicly available, peer reviewed scientific data and methods to assess potential risks associated with the use of pesticide products. In 2008, EPA's Pesticide Program completed re-registration decisions for nearly 400 pesticide chemical cases and through this process many pesticide uses were further restricted in their use or eliminated entirely to protect wildlife. Under the current FIFRA-mandated registration review program, each active ingredient will be re-assessed at least every 15 years, to ensure registrations remain in compliance with the FIFRA risk/benefit standard. Further, prior to registration of any new pesticide use, a full environmental effects assessment is completed to determine whether the pesticide use should be registered at all or, if registered, how ecological risks can be managed to mitigate any identified risks of concern. All of these actions and decisions are managed through a robust, deliberative public participation process that includes public dockets and detailed Agency responses to public comment.

In November of 2001, a coalition of environmental organizations and fishing groups filed a lawsuit, Washington Toxics Coalition (WTC) v EPA, against EPA for failure to consult with the National Marine Fisheries Service (NMFS) on the effects of 54 pesticides on endangered and threatened salmon species in the Pacific Northwest. In July of 2002, the Court ordered EPA to initiate consultation with NMFS on the pesticides named in the lawsuit by December 2004. EPA fully complied with that Court order.

In November of 2007, another law suit was filed by several environmental organizations, this time against NMFS for unreasonable delay in completing consultations requested by EPA. In July 2008, NMFS reached an agreement with the plaintiffs, committing to complete the EPA consultations within four years. On July 31, 2008, NMFS provided EPA with its first 482-page draft Biological Opinion, which included broad species jeopardy findings for three organophosphate insecticides. After some negotiation, NMFS ultimately agreed to allow only 46 calendar days for EPA review of the draft Opinion. EPA posted the draft Opinion on its web site on August 14 to allow public viewing and a limited comment period on the document.

On September 15, 2008, I signed EPA's formal comment letter to NMFS' regarding their July 31 draft Biological Opinion. In that letter I expressed a number of concerns related to NMFS' jeopardy findings. In addition to concerns related to the limited time granted for review and comment, the letter summarized a number of significant concerns related to data selection and the lack of transparency regarding the scientific methodology used to develop the Opinion. Specifically, the Opinion: (i) provided no target levels of exposure that would not result in jeopardy, (ii) didn't address current pesticide use patterns which had been significantly altered through EPA's re-registration process, (iii) assumed routine unlawful product misuse, (iv) included unrealistic assumptions regarding concurrent use of multiple insecticides at the same time, in the same location, at maximum use rates, (v) didn't take into account data that were provided regarding actual product usage in CA and WA, including time and location of use, (vi) relied upon outdated and inappropriate water quality monitoring data, (vii) made incorrect assumptions regarding the manner in which pesticides are aerially applied for mosquito adulticide control, and (viii) lacked transparency in the methods, underlying data, assumptions, and calculations associated with the population model, such that neither EPA nor the public were able to reproduce the model outputs.

In November of 2008, NMFS issued its final Biological Opinion for the three pesticides. The final Opinion continued to include broad jeopardy findings and also specified "reasonable and prudent alternatives" (RPAs) to avoid jeopardy, including 500–1000 foot spray drift buffers, among other restrictions. Two and a half years later, despite more litigation and numerous inter-Agency meetings and communications, this Biological Opinion has not been implemented. Within the past year, there have been unsuccessful attempts by EPA to seek voluntary compliance; a lawsuit brought by the pesticide manufacturers against NMFS, claiming violation of the Administrative Procedures Act; a lawsuit brought by environmental organizations against EPA for failure to implement the Opinion; and formal petitions to EPA from

the pesticide industry as well as from grower groups asking for rulemaking to establish transparent procedures.

In March of this year, EPA Administrator Jackson, on behalf of EPA and the departments of Agriculture, Interior and Commerce, wrote to Ralph Cicerone, Chairman of the National Research Council, requesting that the NRC convene a committee of independent experts to review scientific and technical issues related to FIFRA consultations under the ESA. The NRC expert panel is likely to require at least 18 months to conclude its deliberations, not including the time it will take the Services and EPA to begin to implement the panel recommendations. In the meantime, if EPA is legally or otherwise mandated to proceed to cancellation of a pesticide for which a Biological Opinion already exists, that cancellation process will likely take at least 18 months and constitute a significant resource commitment on the part of EPA's Pesticide Program. Further, I believe there is a reasonable likelihood that such a cancellation proceeding would be unsuccessful, due to the many scientific uncertainties and the lack of transparency associated with existing Biological Opinions. Thus, nearly a decade after the 2001 lawsuit was filed, no meaningful resolution appears likely for at least several more years. Clearly, this is a frustrating and expensive situation for stakeholders on all sides of the issue.

In addition to my concerns regarding the scientific transparency of conclusions reached in existing Biological Opinions, I am concerned for the future sustainability of the pesticide ESA consultation process in general. There are more than 900 pesticide active ingredients and nearly 20,000 pesticide products registered for use in the United States. Under the current consultation paradigm, each use pattern for each product must be re-evaluated at least every 15 years, taking into consideration each geographic use area and each of the approximately 1,200 listed endangered or threatened species or critical habitat within each use area. This complex, multi-faceted pesticide use situation will require literally hundreds of thousands of analyses and decision points and, in my opinion, constitutes a significant resource challenge for the departments and the agency involved.

I hope my remarks today have helped to illustrate the degree to which the ESA consultation process for pesticides needs attention, both from a scientific and a process perspective. Thank you.

**Response to questions submitted for the record by Dr. Debra Edwards,
Senior Managing Scientist, Exponent Engineer and Scientific Consulting**

FROM RANKING MEMBER EDWARD J. MARKEY:

1. As you are probably aware, the National Marine Fisheries Service (NMFS) does not engage in consultations unless the Environmental Protection Agency (EPA) first independently determines that the registration of a pesticide may affect an endangered species. If the EPA had determined that the use of these pesticides had no effect on endangered salmon, consultations would not have occurred. Therefore, which of the following EPA conclusions from its Biological Evaluations do you believe were erroneous and why:

- EPA's determination that the use of pesticide products containing chlorpyrifos, diazinon, and malathion may affect multiple evolutionary significant units (ESUs) of endangered salmon
- EPA's determination that the use of pesticide products containing carbaryl, carbofuran, and methomyl may affect multiple ESUs of endangered salmon
- EPA's determination that the use of pesticide products containing bensulide, dimethoate, ethoprop, methidathion, naled, phorate, and phosmet may affect multiple ESUs of endangered salmon.

Response:

None of the above statements are erroneous. However, a "may affect" finding under the ESA clearly does not constitute a finding that use of these pesticides is likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of critical habitat. The purpose of biological assessment consultations is to determine if such jeopardy exists and to develop "reasonable and prudent alternatives" to minimize potential impacts. As I stated on page 2 of my September 15, 2008 letter to NMFS regarding their July 31, 2008 Biological Opinion for chlorpyrifos, diazinon and malathion, "it is difficult to see how a conclusion could be reached that use of these pesticides jeopardizes the continued existence of all 28 ESUs or DPSs of Pacific Salmon and Steelhead." I do not believe any empirical evidence exists that use of these pesticides is appreciably

reducing the likelihood of survival or recovery of these ESUs or DPSs of Pacific Salmon.

- 2. You mention in your testimony that you wrote a letter to NMFS expressing concerns about the data and assumptions made in the biological opinions, but you do not mention earlier requests for information from NMFS to EPA before completing the Biological Opinion in order to resolve these uncertainties. These requests are listed in the Consultation History section of the Biological Opinion, including a request for simple toxicity data on these three pesticides. Are you aware of those requests from NMFS?**

Response:

In my capacity as Pesticide Program Office Director, I was aware of the occurrence of information requests and exchanges between EPA and NMFS staff prior to the completion of the 2008 Biological Opinion. Though I believe EPA did provide all of the information requested by NMFS in a timely manner, I do not currently have access to the documentation of such exchanges. I recommend that the Pesticide Program be queried directly on this matter if such documentation is needed.

- 3. Do you believe that the ESA consultation process is entirely duplicative of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) registration process? Is there anything that the NMFS or FWS considers in the ESA consultation process that is not considered by the Office of Pesticide Programs during the registration and re-registration process?**

Response:

EPA does not currently have full access to all of the species biology and location data housed within the Services. I believe if EPA did have access to such information, it would be able to run an efficient and effective regulatory process such that pesticide registrations are not only in compliance with FIFRA, FFDCA and PRIA, but also with the ESA. At minimum, I believe the public would be better served in terms of scientific resource utilization if EPA is given the authority, perhaps through a new counter-part regulation, to fully manage ESA considerations for pesticide uses for which EPA makes a “may affect, but not likely to adversely affect” finding.

In August of 2008, in an effort to gain access to critical species biology and location data, EPA prepared a draft “Request for Proposals” (RFP) for the development of an information system to house and to analyze biological, habitat and behavioral (species profile) information as well as spatially explicit location information relative to federally listed threatened and endangered species and their critical habitat. This information was to be “best available” from all credible sources, including Federal Agencies, universities, public interest organizations, and States and Tribes. Standards for defining what is “best available” were to be developed by the federal government through a facilitated process. Our reason for preparing this RFP was based in our belief that the development of such a data base would promote efficiency and transparency in the endangered species consultation process. Further, we believed the availability of such a data base would be useful not only for EPA’s pesticide consultations but essentially for all Federal Action Agencies, including the Environmental Protection Agency, the Department of Interior, the Department of Commerce, the Department of Agriculture, the Department of Homeland Security, the Department of Transportation and the Federal Energy Regulatory Commission. The system also could be made accessible to state agencies, academia, and the general public.

To date, I do not believe the Services or EPA have issued an RFP for the development of this species information data base. However, I continue to believe that such a data base could be invaluable in improving quality, consistency and efficiency in the identification of potential impacts on endangered and threatened species and in the development of reasonable and prudent alternatives and measures to preclude such impacts.

4. FIFRA guards against “unreasonable adverse effects” on the environment. But FIFRA defines this term to require the EPA to consider the overall economic benefits to agriculture as part of this unreasonableness inquiry. If the economic benefits of the registration of a pesticide slightly outweigh the estimated environmental damage would EPA be authorized under FIFRA to cancel the pesticide? For example, if registration creates \$10 million dollars in economic benefits, and simultaneously causes \$9 million in environmental damage (e.g. from higher water treatment costs) would EPA be authorized under FIFRA to cancel the pesticide? Under this scenario, would EPA be authorized under FIFRA to require a new condition of use (labeling, etc) for the pesticide? If the response is yes to either question, has EPA ever exercised such authority and if so, please describe the circumstances?

Response:

Actually, to my knowledge, FIFRA’s definition of “unreasonable adverse effects on the environment” makes no mention of agriculture and certainly is not confined to economic benefits. Rather, the definition, at FIFRA Section 2(bb), is as follows:

“The term ‘unreasonable adverse effects on the environment’ means (1) any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide, or (2) a human dietary risk from residues that result from a use of a pesticide in or on any food inconsistent with the standard under section 408 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 346a).”

I am personally unaware of any situation in which the EPA considered cancellation or retention of a pesticide use based solely on a strict mathematical weighing of dollar trade-offs, as described above. As to whether EPA would be “authorized” under FIFRA to cancel a pesticide in the circumstances described above, I would defer to the Agency’s attorneys.

EPA has an excellent record of success in requiring new conditions of use for pesticide products as a means of risk management through its routine registration and re-evaluation programs under FIFRA. It is not uncommon, during registration and re-evaluation activities, for the Agency to identify a risk of concern for human or non-target organism exposures. In these circumstances, the Agency contacts the pesticide registrant to request voluntary changes in the existing or proposed registration (e.g., labeling) to mitigate the identified risks. Non-target organism risk management tools commonly used to achieve risk mitigation include: reduction in application rate, reduced number of permissible applications per season, changes in method of application (e.g., application equipment) and spray drift buffers. Registration applications may be voluntarily withdrawn or existing registrations voluntarily cancelled when no practical risk mitigation can be identified that would sustain product utility. I believe the demonstrated success of EPA in achieving voluntary compliance with requested risk mitigation and labeling changes can be directly attributed to the fact that EPA runs a transparent, open public participation process in its re-evaluation program and, more recently, in its registration program. On many occasions, I have heard non-government environmental advocacy organizations, e.g., representatives of the NRDC and the American Bird Conservancy, state that the public participation process run by EPA’s Pesticide Program is a model for good government.

I believe that the reason the industry has not voluntarily complied with the “reasonable and prudent alternatives” (i.e., recommended product use changes) recommended by NMFS in conjunction with its recent Biological Opinions is that they were not developed through such an open, deliberative process.

5. In *Washington Toxics Coalition v. U.S. Dept. of Interior*, 457 F. Supp. 2d 1158, 1184 (D. Wash 2006), the Court stated that “EPA’s risk assessment process is not only less protective than Service determinations, there is overwhelming evidence on the record that without a Service check, EPA risk assessments (leading to pesticide registrations) would actually result in harm to listed species.” Do you believe that the Court’s conclusion that EPA-OPP’s risk assessment procedures is less protective was erroneous, and if so, why?

Response:

It is difficult to say whether Service determinations are or will be more “protective” than those of EPA because so very few of them have been produced and the ones that do exist are generally lacking in transparency as to how the conclusions were reached. I believe the principle concerns voiced by the Court were related to many of the topics the National Research Council has recently been asked to ad-

dress by EPA, the Services, and USDA, i.e., “identification of best available scientific data and information; consideration of sub-lethal, indirect and cumulative effects; the effects of chemical mixtures and inert ingredients; the use of models to assist in analyzing the effects of pesticide use; incorporating uncertainties into the evaluations effectively; and the use of geospatial information and datasets that can be employed by the departments and agencies in the course of these assessments.”

The EPA’s Pesticide Program, as I noted in my written testimony, has on staff a large number of highly qualified toxicologists, biologists, chemists and environmental modelers who are experienced in the evaluation of potential non-target organism effects related to pesticide use. In fact, in many of the consultation documents EPA scientists have delivered to the Services, current pesticide uses that “may affect” (directly) endangered and threatened species have been identified. Nevertheless, instead of providing well-referenced and documented Biological Opinions in response to such requests for consultation, the Services’ reaction has typically been: (i) no response at all, (ii) rejection of the EPA consultation package as “incomplete” or (iii) when faced with a lawsuit for failure to respond, a Biological Opinion that cannot be implemented due to failure to document the scientific rationale for onerous “reasonable and prudent alternatives” recommendations. At minimum, it is unclear to me how refusal of the Services to provide any Opinion or advice to EPA on how best to address a documented, direct “may affect” finding for a pesticide use can be deemed by anyone as “protective.”

- 6. Given that many of the pesticides considered in the Biological Opinions are regularly found in water bodies throughout the country, do you believe that the regional offices of NMFS on the West Coast, the experts on salmon conservation, should have a role in evaluating the impacts of these pesticides on salmon? Please explain what role you believe that NMFS should play in protecting endangered salmon from pesticides.**

Response:

As I have noted above in response to question #3, EPA does not currently have full access to all of the species biology and location data housed within the Services. For salmon species, those data are likely housed within the NMFS Regional Offices on the West Coast. Further, under existing laws and regulations, I believe NMFS has a legal obligation under the ESA to provide timely Biological Opinions to Federal Departments and Agencies that “consult” regarding actions for which “may affect” findings have been made with respect to endangered or threatened species or their critical habitat. Historically, for EPA pesticide consultations, NMFS has not met its obligations in this regard and only recently (as a result of legal action against NMFS) has begun to provide EPA with Biological Opinions. Some of these Biological Opinions are in response to consultation requests submitted more than 5 years prior by EPA.

In my opinion, the pesticide-related Biological Opinions issued by NMFS are not in compliance with President Obama’s Directives regarding (1) Transparency and Open Government (January 2009) or (2) Scientific Integrity (March 2009). Below are some pertinent quotes from these Directives:

“My Administration will take appropriate action, consistent with law and policy, to disclose information rapidly in forms that the public can readily find and use.”

“To the extent permitted by law, there should be transparency in the preparation, identification, and use of scientific and technological information in policymaking.”

Further, John P. Holdren, Director of Science and Technology Policy, in his December 2010 Scientific Integrity Memorandum to the Heads of Executive Departments and Agencies stated:

“...agencies should expand and promote access to scientific and technological information by making it available online in open formats. Where appropriate, this should include data and models underlying regulatory proposals and policy decisions.”

“Agencies should communicate scientific and technological findings by including a clear explication of underlying assumptions; accurate contextualization of uncertainties; and a description of the probabilities associated with both optimistic and pessimistic projections, including best-case and worst-case scenarios where appropriate.”

In summary, if the Services “should” continue to play a role in pesticide matters related to the Endangered Species Act, I believe they should be required to provide timely response to consulting agencies and to produce Biological Opinions that are in compliance with this Administration’s stated commitments to transparency and scientific integrity.

The CHAIRMAN. You didn't even need that seven seconds that you required. Thank you.

Mr. Mathison, you are recognized for five minutes.

STATEMENT OF WEST MATHISON, PRESIDENT, STEMILT GROWERS, LLC, BOARD PRESIDENT, WASHINGTON STATE HORTICULTURAL ASSOCIATION

Mr. MATHISON. Thank you Chairman Hastings and distinguished members of both Committees.

My name is West Mathison. I am the President of Stemilt Growers in Wenatchee, Washington. I am also the Board President of the Washington State Horticultural Association. I am a five generation farmer and I grew up living on a fruit orchard. The Town of Wenatchee is a farming community that has a passion for recreation and conservation.

Our family and our company developed a program called Responsible Choice and our mantra is to enrich the soils where we live, work, and play. This culture has led us in partnership with our independent growers to being the largest grower of organic tree fruit in the U.S.

Humbly speaking, I feel our many awards around food safety and environmental stewardship speak for themselves. Washington State may be well known for Boeing, Starbucks, and Microsoft, but perhaps less well known is its diverse agricultural products, such as apples, pears, cherries, wheat, grapes, hay, milk, potatoes, forest products, hops berries, and more, to name a few.

In Washington, agriculture production is valued at \$9.5 billion, trading 82,000 permanent jobs with \$1.5 billion in wages, \$2.2 billion in proprietor income and \$16 billion in total economic impact annually. The tree fruit industry alone exceeds 25 percent of this number. Seasonal workers add another 100,000 jobs for pears, apples, and cherries. With only 2 percent of the apples we grow being consumed in Washington, it is not surprising that we depend on both domestic and export markets insomuch that we export 30 percent of our apples and cherries.

I want to affirm the motivation to have reasonable regulation. I strongly urge your support to remedy the dysfunctional process underway between the Services and the EPA regarding ESA consultation and the development of BiOps for protection of salmon.

With the first series of BiOps, we face losing our ability to manage large sections of our farms in Washington. If not remedied, this precedent will endanger the future use of all pesticides which EPA believes may affect endangered or threatened species, both for conventional and organic farming practices. I am deeply concerned that this will put my business and others in agriculture into great jeopardy, if implemented.

Moreover, these ideas of mitigation would destroy jobs and hurt many rural communities around the nation. And how is this? The proposed mitigation includes 100, 500, and 1000-foot no spray buffers around all conveyances of water, including ditches of any size and seasonal streams. This would have a devastating impact on existing farms.

A map, which is an exhibit that is shown here, is from the Washington State Department of Agriculture for two counties in the

state and shows that mitigation measures would prevent the use of some pesticides on up to 75 to 85 percent of farmland. For a quick horticultural lesson, the two most pervasive pests for pears and apple growers are psylla and codling moth. Both are prolific flyers and can travel large distance in spreading the next generation as they go. To leave as little as 10 percent of an orchard untreated is to leave a nursery for these pests to continue their devastation of our crops.

Buffers may sound reasonable from a horticultural perspective, but they may and could and would stimulate the need for more pesticides because of the infestation of pests that harbor in these buffers. I like many other growers would rather not spray or spray as little as possible. Simply speaking, these enhanced buffers can make this issue worse. And why is managing the orchard important? Damaged fruit cannot be sold in the fresh market. Growers cannot stay in business producing anything but the most marketable fruit per acre.

Clearly, the Services failed to assess the economic effects of their mitigation measures. The jobs of thousands of rural people and the livelihood of many American farmers should be considered. As growers, we consider this a national crisis affecting 50 states.

In March, the EPA and the U.S. Departments of the Interior, Commerce, and Agriculture sent a letter to the National Academy of Sciences stating that the process is flawed. Based on this, we would recommend to suspend the implementation of the three BiOps and any further work until NAS completes its work and a process is established based on the peer-reviewed science.

I am proud to grow apples, pears, and cherries—all healthy fruits which the new dietary guidelines in the medical community say that we should eat more to fight obesity and improve health and IQ. It is ironic that today this issue threatens to disrupt the production of the very same crops. If our production declines, American consumers will simply enjoy more imported products by foreign competitors with less stringent food safety requirements.

As farmers, we want to be a part of crafting the solution that protects the listed species, while enabling them to produce safe and affordable food.

[The prepared statement of Mr. Mathison follows:]

Statement of West Mathison, President, Stemilt Growers, LLC, and Board President, Washington State Horticultural Association, Wenatchee, Washington

Good morning Chairman Hastings, Ranking Member Markey, Chairman Lucas, Ranking Member Peterson and distinguished members of both Committees.

My name is West Mathison and I am President of Stemilt Growers, in Wenatchee, Washington. I am also Board President of the Washington State Horticultural Association. In partnership with our independent growers, Stemilt is the nation's largest supplier of sweet cherries and organic tree fruits, as well as a key supplier of Washington-grown apples, pears and stone fruit.

The Stemilt company roots trace back to 1893, when my great-great grandfather Thomas Cyle Mathison, homesteaded 160 acres on Stemilt Hill overlooking the Columbia River and the town of Wenatchee. I represent the fifth generation of our family owned and operated business. My family has long understood the strong connection between the success of our business and stewardship of the land and respect for our environment.

In 1989, my grandfather, Tom Mathison launched the *Responsible Choice* program, stating that "the truth of the matter is we are just caretakers of the land for a very short time. It's important that we leave it as good as we possibly can,

or better if we can.” Through this program we became an early adopter of sustainable agriculture, reducing chemical use as well as utilizing integrated pest management programs and beneficial predators such as falcons to ward-off fruit damaging birds. (See attachment 1: “*Responsible Choice*”).

I strongly believe that our commitment to the environment will play an integral role in ensuring the success of our business for generations to come. That being said, our future also depends on continued access to critical crop protection tools needed for pest and disease control.

Agriculture in the State of Washington

Washington State may be well known for Boeing and Microsoft but perhaps less well known is its diverse agricultural output of apples, pears, cherries, wheat, grapes, hay, milk, potatoes, forest products, hops, berries and more. We provide nearly 2/3 of the fresh apples consumed in the US and export nearly a third of our crop. Overall agricultural production is valued at \$9.5 billion creating 82,000 permanent jobs with \$1.5 billion in wages, \$2.2 billion in proprietor income, \$219 million in taxes and \$16 billion in total economic impact. . . . annually. Tree fruits alone exceed ¼ of this total. Seasonal workers add another 100,000 jobs for pears, apples and cherries alone. With only 2% of the apples we grow being consumed in Washington State it is not surprising that we depend on both domestic and export markets. Fruit and vegetable products account for 51% of the traffic moving to export markets through the Ports of Seattle and Tacoma.

Endangered Species Act and Pesticides

Thank you for the opportunity to speak today about the impact of federal regulatory activities on the Endangered Species Act (ESA) and pesticide use. Under current pesticide law, EPA must evaluate the risk of harm to human health and the environment (including fish, wildlife and “non-target” plants) before approving a pesticide.

Under the ESA, EPA is required to consult with the Interior Department’s U.S. Fish and Wildlife Service and the Commerce Department’s National Marine Fisheries Service (the “Services”) when EPA determines its actions may affect a listed species under ESA.

Over the last decade, EPA has been repeatedly sued to require consultations with the Services for hundreds of pesticides across the nation and has agreed to do so. In the Pacific Northwest, which is affected by the first series of biological opinions (BiOps), we face losing our ability to manage large sections of our orchards, farms and ranches due to questionable use restrictions proposed by the Services for certain key crop protection tools. These products have *already met* EPA safety standards as required under federal law. If not remedied, this precedent will endanger the future use of all pesticides which EPA believes may affect endangered or threatened species, both for conventional and organic agricultural production.

I want to affirm the motivation to have reasonable regulations. But, I strongly urge your support to remedy the dysfunctional process underway between the Services and EPA regarding ESA consultation and development of BiOps for protection of listed salmon. The approach is seriously flawed. I am deeply concerned that it will put my business and others in agriculture—in Washington State and beyond—into great jeopardy if implemented.

Both the Services and EPA claim they use appropriate science to conduct pesticide evaluations and develop mitigation measures. However, the lack of collaboration between the Services and EPA has resulted in contradictory risk assessments for the pesticides subject to completed BiOps. For example, the Services failed to consider pertinent data and instead relied on outdated and irrelevant studies. EPA did not consider the Services’ recommendations sound enough to require their adoption by pesticide registrants. This has led to yet another lawsuit to force EPA to implement unnecessary pesticide restrictions.

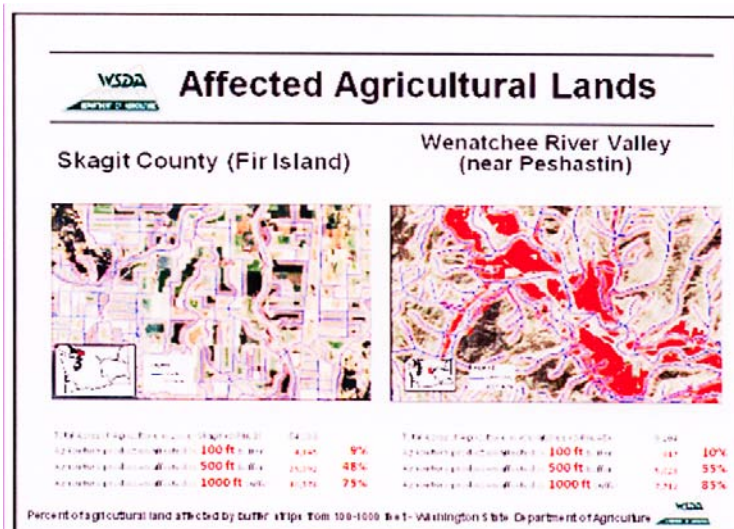
Washington Stream Sampling Results Ignored

Serious questions remain about the approach used by the Services in the development of these three BiOps that suggest they are fatally flawed.

One is particularly close to home. Six years worth of in-stream testing conducted by Washington State Department of Agriculture and Department of Energy showed ***no readings above the minimum EPA established level*** which presents a risk to salmon. On the contrary, the salmon population is actually increasing and last August the Oregonian newspaper reported that that the Columbia River experienced a sockeye salmon run that was “the highest since the Bonneville Dam started operating in 1938.” Yet, the BiOps use modeling data from Mid-West studies dealing with standing bodies of water, not the swift moving rivers in the Pacific Northwest.

Pesticide applicators are already careful to follow the EPA label, as shown by the in-stream testing. The BiOps assume all pesticides within the group under review will be present and/or used at the same time and at their maximum label rate. Neither is accurate. It would be like assuming that when I have a headache I take the maximum dosage of Tylenol, Advil and Aspirin. This exaggeration of risk by the Services led to their conclusion that there is substantial risk which requires mitigation while real-world scientific data that indicates otherwise.

The proposed mitigation includes 100, 500 and 1,000 foot no-spray buffers around all conveyances of water, including ditches of any size and seasonal streams. This would have a devastating impact on existing farms and orchards in Washington. Studies by the Washington State Department of Agriculture of existing farms and orchards show upwards of 10 percent would be within the 100 foot buffer, 50 percent would be within the 500 foot zone and nearly 80 percent would be within 1,000 feet. A map developed by the Washington State Department of Agriculture for two counties in the state shows that the NMFS mitigation measures would prevent the use of affected pesticides on up to 75 to 85 percent of the farmland (See illustration below).



For a quick horticultural lesson; the two most pervasive pests for pear and apple growers are psylla and codling moth. Both are prolific flyers and can travel large distance spreading the next generation as they go. If we are to achieve our goal of fewer pesticide applications—remember, pesticides are expensive to use and apply—then maximum efficacy must be obtained from every application. To leave 10% or more of your orchard untreated is to leave a nursery for these pests to continue their devastation of our crops. Buffers may sound reasonable but from a horticultural perspective they would stimulate the need for more pesticides because of infestations of pest that would harbor in these buffers. Simply speaking, buffers make the problem worse.

Damaged fruit cannot be sold into the fresh markets; neither do processors want pest riddled fruit. Growers cannot stay in business producing anything but the most marketable fruit per acre. Warehouses that package and market the grower's fruit can only sell high quality, pest free fruits. In short, the entire system depends upon highly effective means of pest control whether that fruit is grown organically—which does not mean pesticide free—or conventionally.

Despite the impact these mitigation measures could have on farm practices, the Services failed to assess their economic effects. This should be considered as decisions are made.

Congress recognized the serious impacts that ESA could have upon the nation's agricultural community. As a result, the ESA Amendments of 1988 were passed which included Section 1010 mandating that ESA compliance for EPA's pesticide program be designed to minimize the impact on agricultural producers and other affected pesticide users and applicators. This provision should be adhered to.

Growers need to know that pesticides will be available to protect their crops, whether apples, pears and cherries in Washington or other crops across the country. The Services now face a lengthy backlog of litigation-driven BiOps. If this continues, additional pesticides will face this dysfunctional consultation process between EPA and the Services. Consequently, the use of more products will be thrown into jeopardy if pesticides scheduled to go through reregistration are also subject to this process.

While some may say that alternative products are available to replace those in the completed BiOps, these too could face the same future unless the failed process is fixed. Growers need clarity and confidence about the crop protection tools we need and use.

Growers Seek Involvement in Process

Now I want to affirm the EPA. They have been effectively monitoring the plant protection materials used by farmers, ranchers and orchardists. The EPA has achieved this by having a level playing field where all can be heard. As key stakeholders, growers seek an opportunity to provide input into the BiOps and mitigation measures identified by the Services. This is the process that has worked so well at the EPA for registering pesticides. In this process, the EPA sets a level of acceptable risk and growers participate in determining permissible usage and application rates to remain within these risk parameters.

But in the consultation between the Agencies and EPA we have been largely left out. The court-managed process has resulted in growers, who have a very legitimate interest in the outcome, being bound to a single recommended practice into which they had no input. There is no "comment period" as is required by law when EPA makes its pesticide decisions. For example, growers provide information to EPA about production practices, recommendations on the impacts of various mitigation options, and other issues. Our future will be affected by the BiOps, yet we do not have a bona fide seat at the table.

The National Marine Fisheries Services (NMFS) has started talking informally with producer representatives, after encouragement by Congress. However, this is at the agency's discretion and does not address the flawed process that has already been concluded with the first three completed BiOps. With additional lawsuits filed, NMFS is unlikely to have the staff capacity to go back and fix the earlier BiOps. This informal consultation may be discontinued if the agency faces court-ordered consultation on hundreds of additional products across the country.

A clear and open official process is needed to involve stakeholders. It could be patterned after the deliberative process adopted after passage of the 1996 Food Quality Protection Act that enabled EPA to develop its science policies and practices to implement the new law. In that case, USDA and EPA worked closely with stakeholders and their advisory committees to solicit recommendations, gather real-world data and explain decisions.

A National Crisis

With the recent filing of a *nationwide* lawsuit against EPA, this ESA pesticide issue is now a national crisis affecting growers and imperiling their crops across the country. The suit involves more than 380 pesticides and 214 threatened or endangered species.

In March, EPA and the U.S. Departments of the Interior, Commerce and Agriculture *acknowledged that this consultative/BiOp process is broken* when they sent a joint letter to the National Academy of Sciences (NAS) requesting an independent review of key science issues. It is critical that the conflict be resolved between the Service and EPA on scientific risk assessment and evaluation for pesticides subject to ESA consultation.

Since the government itself recognizes that the process is flawed, implementation of the three BiOps and further work should be suspended until the NAS completes its work and a process is established based on the best available peer-reviewed science.

I am proud to grow apples, pears, and cherries—all healthy fruits which the new *Dietary Guidelines*, the medical community and health officials say we should eat more of to fight obesity and improve health. It is ironic that at the same time the dysfunctional BioOp process threatens to disrupt production of these very same specialty crops. If our production declines, American consumers will simply increase enjoy more imported fruit produced by foreign competitors.

Farmers want to be part of crafting a solution that protects listed species while still enabling them to produce safe and affordable food. I urge you to encourage the Administration to achieve this goal for the benefit of America's consumers and American agriculture.

[NOTE: Attachments have been retained in the Committee's official files.]

**Response to questions submitted for the record by Mr. West Mathison,
President, Stemlit Growers, LLC**

FROM RANKING MEMBER EDWARD J. MARKEY:

- 1. In your testimony, you state “the Services failed to consider pertinent data and instead relied on outdated and irrelevant studies.” Please provide copies to the Committee of all data and other sources of information that you believe that NMFS ignored during the development of the BiOps between 2004 and 2009. For data not in your possession, please provide accurate citations to the data and other information that NMFS ignored during this time period.**

West Mathison Response

It is my understanding that the services dismissed available surface water monitoring data collected by the state of Washington as not being representative of likely salmonid exposure to the agricultural chemicals. Since this data was gathered in a way designed specifically to estimate risk to salmonids of pesticides in water it should have been a bigger part of the risk assessment. The data is available at: <http://agr.wa.gov/PestFert/natresources/SWM/>.

- 2. In your testimony, you state that the “BiOps use modeling data from Mid-West studies dealing with standing bodies of water, not the swift moving rivers in the Pacific Northwest.” Please provide specific citations to the BiOps where such assumptions are made.**

West Mathison Response

NMFS uses a very conservative modification of the EPA’s “farm pond” model to estimate worst case scenarios for pesticide contamination in shallow water habitats that I do not believe represents the majority of surface waters where salmonid habitat exists in rivers of the inland Pacific Northwest. Since this shallow water risk scenario is a prominent feature of the biological opinions it should be easy to reference upon review of any of the opinions.

The CHAIRMAN. I thank you. And Mr. Mathison thank you very much for describing the agricultural mix in my district because everything that you listed is grown in my district, so I appreciate that very much.

Secretary Newhouse, you are recognized for five minutes.

**STATEMENT OF MR. DAN NEWHOUSE, DIRECTOR,
WASHINGTON STATE DEPARTMENT OF AGRICULTURE**

Mr. NEWHOUSE. Thank you Chairman Hastings, Chairman Lucas, members of the Committee. I do thank you for convening this hearing today on the Federal Endangered Species Act, the ESA, the consultation process for pesticides.

My name is Dan Newhouse. I am the Director of Agriculture for the State of Washington. And just as importantly, I am a farmer from the small town of Sunnyside, Washington, where I raise hops, grapes, apples, and other kinds of fruit as well as some row crops.

I am also testifying on behalf of the National Association of State Departments of Agriculture, NASDA, which represents the commissioners, secretaries, and directors of the State Departments of Agriculture in all 50 states and 4 territories. We as Ag Departments are responsible for a wide range of programs, including food safety and the spread of plant and animal pests and diseases as well as fostering the economic vitality of our rural communities.

In 43 states, including my own, we have the delegated authority from EPA to enforce the Federal Insecticide, Fungicide, and

Rodenticide Act, known as FIFRA. We regulate pesticide labeling, distribution and use.

First, let me say that we do support the goals of the Endangered Species Act. We want prudent, effective protections for threatened and endangered species of fish and animal populations. But we also want an environment where farmers can also be successful. We do not believe that these two things are mutually exclusive.

That being said, we remain concerned about the current pesticide registration regulatory process. Over the past ten years, we in the Pacific Northwest have watched this process on the impacts of pesticides on endangered salmon play out between EPA and NMFS, the National Marine Fisheries Service.

Under court-ordered consultations, NMFS has already issued biological opinions on 24 pesticides. The mitigation measures identified by NMFS to protect salmon include expanded buffers, preventing pesticide use ranging from, as you have heard from 100 to 1000 feet around all water bodies. And we can't underscore this enough. That means all streams, whether, in fact, they are natural or man-made, all drainage, ditches, canals, even intermittent stream beds.

The impact these expanded buffers will have on Ag production across my state is significant. For example, as you have just seen in the map in the Skagit Delta, some of the most productive farmland in the country, a 500-foot buffer impacts almost half the Ag land. A 1000-foot buffer, three quarters of the Ag land. This will effectively prohibit the use of certain pesticides critical to the protection of some very high-valued crops.

Now you must ask the question will these expanded buffers improve water quality in salmon-bearing streams? My own agency, along with our own State Department of Ecology has been conducting surface water monitoring since 2003. And our data shows that today's agricultural practices in water sheds across the state result in pesticide concentrations that are already consistently below the levels of concern set by NMFS and EPA in these biological opinions. But rather than incorporating our real world data, NMFS defers to conservative modeling in their identified potential problems.

The one-year implementation time line is also a concern. Our growers may not have a viable alternative pesticide already registered for use. Without these appropriate substitutes plant pests and disease will impact the viability of Ag production as well as our ability to meet the expert requirements of our trading partners.

I am encouraged about the recent changes to the consultation process. NMFS has adopted quantifiable targets to determine what constitutes jeopardy to endangered salmon. Now we do have a better understanding of what is needed to protect the listed species. Furthermore, NMFS Regional Administrator Will Stelle has organized several meetings to facilitate communications between NMFS, EPA, USDA, states and other stakeholders. Ongoing discussions with EPA's Larry Elworth and others have resulted in open communication channels that have truly been very helpful. But it is our impression that NMFS and EPA are not communicating well with each other through this process.

Correspondence between them shows that there is little agreement on data and methods used in these assessments. We do think that the National Academy of Sciences outside review will go a long way to resolving disagreements, but we are concerned the time-ordered time line is going to be too long to improve the consultation process. We must see a review of the initial biological opinions. Any new process must include opportunities for state and Ag producers to make additional comments on these opinions.

What we have seen in the Northwest has now become a national issue. This recent lawsuit now takes into effect 300 pesticides and 214 species and it could impact pesticide registrations in virtually every major Ag region in the country. I know that many of your states have a greater number of threatened and endangered species than I do in my own state. Given these logistical challenges and time lines, I fear that the consultation between the two agencies on an even larger scale will be unsustainable and due to the lack of Federal resources will be unsustainable.

In my state, due to unresolved challenges to the recent biological opinions, growers continue to operate in an uncertain environment. I now hear from my colleagues and I know that each one of them at some point in the future would like to be here in this chair to express to you their concerns to the industry in your states.

So thank you very much for attention to this issue. I look forward to working with you in the future.

[The prepared statement of Mr. Newhouse follows:]

Statement of Dan Newhouse, Director, Washington State Department of Agriculture, on behalf of the National Association of State Departments of Agriculture

Chairman Hastings, Chairman Lucas, Ranking Member Markey and Ranking Member Peterson, thank you for convening this hearing today on the Federal Endangered Species Act (ESA) consultation process for pesticides. I appreciate the opportunity to testify today and share a state agency perspective on this important topic.

I am testifying today on behalf of the Washington State Department of Agriculture as well as the National Association of State Departments of Agriculture (NASDA). NASDA represents the commissioners, secretaries, and directors of the state departments of agriculture in all fifty states and four territories. State departments of agriculture are responsible for a wide range of programs including food safety, combating the introduction and spread of plant and animal diseases, and fostering the economic vitality of our rural communities. Environmental protection and conservation are also among our chief responsibilities.

Forty-three of NASDA's members are co-regulators with the Environmental Protection Agency (EPA) under the state primacy provisions of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Our agencies are the lead state agencies responsible for administering, implementing and enforcing the laws regulating pesticide labeling, distribution, and use in our states. In addition to our pesticide regulatory responsibilities, state departments of agriculture use pesticides in their administration of invasive-species control programs such as the control of apple maggot in Washington State.

I am here today because the pesticide registration process faces serious challenges from litigation to compel compliance with ESA. While we all seek to protect threatened and endangered species, a litigation-driven process that fails to adequately incorporate the expertise of state agencies and other stakeholders and does not recognize the impacts on end users of pesticides, is not acceptable.

Over the past ten years, we in the Pacific Northwest have seen up close the implications of an ESA consultation process that is badly broken. In 2002, the U.S. Environmental Protection Agency (EPA) was sued by a coalition of environmental groups for failure to consult under the ESA on 54 pesticides used for crop protection in the Pacific Northwest that could potentially affect threatened or endangered salmon.

Later that year, the U.S. District Court for the Western District of Washington found that EPA failed to consult with the National Marine Fisheries Service (NMFS) on the effects to salmon from 54 pesticides. The court ordered EPA to make “effects determinations” for all pesticides in question by August 1, 2003.

EPA’s initial assessment determined 37 of the 54 pesticides “may affect” listed salmonid species. These 37 pesticides were submitted to NMFS for formal consultation. However, NMFS failed to initiate consultation after receiving EPA’s effect determinations. As a result, in November 2007 the Northwest Coalition for Alternatives to Pesticides et. al. sued NMFS for failure to complete the consultation on the 37 pesticides. On August 1, 2008, NMFS and plaintiffs negotiated a stipulated agreement that requires them to complete the biological opinions by February 2012, which is nearly 10 years after the original court ruling against EPA.

In compliance with the 2008 court order, NMFS has authored the first four biological opinions that include sweeping new requirements for pesticide use. To reduce the chance for jeopardy to threatened and endangered salmon species occurring as a result of application of the pesticides of concern, NMFS specified mitigation measures known as Reasonable and Prudent Alternatives (RPAs) to protect listed salmon. These measures are expected to affect an extensive amount of agricultural land in California, Oregon, Idaho and Washington.

The RPAs outlined in the biological opinions for protecting salmon include drift and runoff buffers, application limitations when wind speed exceeds 10 mph, application prohibitions when soil moisture is at field capacity or a storm event is likely in 48 hours following the application, reporting of all incidents of fish mortality, and effectiveness monitoring. Of these requirements, three specific elements of the RPAs have generated substantial concern:

1. The definition of water bodies to which the RPAs apply

According to NMFS, “salmonid habitats are defined as freshwaters, estuarine habitats, and nearshore marine habitats including bays within the evolutionary significant unit ranges including migratory corridors. The freshwater habitats include intermittent streams and other temporally connected habitats to salmonid-bearing waters. Freshwater habitats also include all known types of off-channel habitats as well as drainages, ditches, and other manmade conveyances to salmonid habitats that lack salmonid exclusion devices.”

The definition presented by NMFS is overly broad and includes water bodies that are not salmon bearing. Washington State fish and wildlife experts have explicitly defined the extent of salmon habitat in Washington; using state specific data would allow NMFS to provide a RPA that focuses more on where the fish are and less on general assumptions.

2. The size of the buffers specified

The initial biological opinions rely heavily on buffers ranging from 100 to 1000 feet around waterbodies identified as salmon habitat. The impact these buffers will have on agricultural production across the state is significant. For example, in the Skagit Delta in Western Washington a 500-foot buffer would affect an estimated 48 percent of agricultural lands, while a 1000-foot buffer would affect an estimated 75 percent of agricultural lands. Notably, buffers were not calculated for all ditches and intermittent streams because their locations are not known with specificity. The actual agricultural acres affected are likely greater than estimated due to the presence of ditches and intermittent streams and because farmers typically do not partially treat a field and to do so is not generally an effective treatment for a pest. Similar statistics were calculated for the Wenatchee Valley in eastern Washington.

Buffers this size applied to salmon habitat, as defined in the initial biological opinions, will effectively result in a prohibition of use for those pesticides within the Skagit Delta, Wenatchee Valley and similar areas.

3. One-year implementation timeline for the RPAs

The one-year timeline specified in the biological opinion may allow EPA time to implement the specified RPAs. However, one year is not adequate to allow for exploration of alternative pest control strategies for farmers. Minor crops may not have a viable replacement pesticide registered for use or an alternative pesticide may not work well with integrative pest management (IPM) programs that balance pest control with beneficial insect populations and use of specific pesticides. Another concern for minor crops is whether a Maximum Residue Level (MRL) has been established for replacement pesticides in export markets. If a MRL is not established for a replacement pesticide, international trading opportunities are severely limited.

Correspondence between NMFS and EPA indicates there is little agreement on the data and the underlying assumptions used to assess effects of pesticides on salmon in the consultation process. Due to conflicting statutory requirements and

litigation-driven consultation, the working relationship between EPA and the Services can be described as fractured at best and, at its worst, openly antagonistic. As a result, there is little give and take between EPA and the Services as envisioned within the ESA consultation handbook for conducting ESA section 7 activities.

One area that needs to be resolved is the use of water quality monitoring data versus modeled exposure values. Washington has conducted targeted water monitoring which shows concentrations are below levels of concern for salmon. However, NMFS defers to modeled exposures for pesticides in salmon-bearing streams that show concentrations of concern. Assessment of the effects of listed species to pesticides must balance real-world exposure with conservative modeled values.

I am encouraged that EPA and the Services requested the National Research Council to convene a committee to review the scientific and technical issues that have arisen through the consultation process. However, I am concerned the review will take a minimum of 18 months and NMFS is still required by the courts to complete their biological opinions for salmon next year. Further, it is critical that as EPA and the Services resolve their differences on the technical issues and procedures, the biological opinions completed to date should be reassessed using the agreed upon procedures.

Transparency and accessibility is another area that has been lacking in the consultation process. Consultation for ESA compliance takes place between two federal agencies and, unlike the pesticide registration and review process, state agencies and other stakeholders have limited opportunity to participate in meaningful ways. Typically, the only opportunity to comment is when EPA makes a draft biological opinion available during a 30-day comment period. The biological opinions are highly complex technical documents that can be more than 1000 pages. This short review time is a function of the consultation schedule NMFS must follow that was negotiated through the courts.

The ESA requires the Services to implement RPAs that are economically and technologically feasible. Unfortunately, this requirement is applied to the action agency which in this case is EPA, not the end user. Therefore, no consideration has been given to the economic consequences for the RPAs to the farmer. This is especially of concern to states where minor crops are grown and the availability of alternative pesticides may be limited.

Progress is being made. In the most recent biological opinions, NMFS has incorporated quantifiable targets to define what constitutes jeopardy. This allows states and stakeholders to clearly understand what level of protection is needed to protect listed species. Also, NMFS Regional Administrator Will Stelle has organized several meetings to facilitate communication between NMFS, EPA, United States Department of Agriculture, states and stakeholders. Unfortunately, litigation on pesticide consultation for ESA continues. The Center for Biological Diversity filed suit against EPA for failure to consult on more than 300 pesticides and 214 species in January of this year. This lawsuit will affect pesticide registrations in all states except Alaska. Court-directed consultation between EPA, United States Fish and Wildlife Service and NMFS on such a scale is unsustainable given existing federal resources and processes. Moreover, specific court decisions to date have delivered unmanageable workloads for agencies and untenable timelines, but no workable solution to the problem of ESA consultation.

The current pesticide registration/consultation process limits the ESA's effectiveness at protecting listed species by delaying development and implementation of rational, effective measures for pesticide use. Because of numerous procedural barriers and minimal opportunity for states and stakeholders to engage decision-makers, the process also fails to provide reasonable registration of pesticides. Solutions to these challenges are available. For example, mediation of the strained relationship between the Services and EPA can establish a collaborative and transparent consultation process for pesticide registration. In addition, past and future biological opinions will benefit from incorporation of both current available data and assessment of the economic feasibility of proposed RPAs and Reasonable and Prudent Measures (RPMs). Similar benefits can be achieved through clear integration of consultation into EPA's registration process. Integration can prevent future litigation based on the "failure to consult" premise and improve opportunity for public participation.

The facts are clear: the consultation process is poised to collapse under the weight of proposed litigation limiting effective species protection, and adversely impacting the nation's agricultural community. Ultimately, resolution will be achieved only when states, policy makers and interested parties join the call to improve the pesticide consultation process.

The CHAIRMAN. Thank you very much, Mr. Secretary.

And our last witness on this panel is Mr. Grader. Mr. Grader, you are recognized for five minutes.

**STATEMENT OF W.F. GRADER, JR., EXECUTIVE DIRECTOR,
PACIFIC COAST FEDERATION OF FISHERMEN'S ASSOCIATIONS**

Mr. GRADER. Thank you very much Chairman Hastings and I guess Chairman Lucas has gone.

My name, for the record, is Zeke Grader. I am the Executive Director for the Pacific Coast Federation of Fishermen's Associations. We represent working men and women in the West Coast commercial fishing fleet. Our federation basically consists of thousands of small, family fishing operations. These are all small businesses. And I want to reiterate here that it tends to get forgotten is that our members are food producers.

One of the interest we look out for to ensure there are ample fish for our members to harvest is that looking to eliminate the various threats to fish. We work, for example, to ensure fishing regulations promote sustainable fisheries and to prevent over fishing. We also work to ensure that our fish stocks are protected from non-fishing activities.

Since earliest days of our organization in the mid-1970s, we have been concerned with water quality among those threats to our fisheries, particularly in regard to salmon that spend—they are spawn of course in fresh water streams, spend their early days there in the case of coho salmon, a year there before going to sea and then coming back to these same streams to spawn again and die. And this is an area where they tend to be particularly vulnerable.

We have been involved with efforts, looking the application of pesticides and herbicides since the 1970s. I think some of our earliest actions were involving in the north coast of California the spraying of the phenoxy herbicides over forested water sheds. These herbicides containing dioxygen we knew from science that directly affected fish populations, either from direct fish kills or more likely from more subtle effects, affecting either behavior or immunity to disease.

As we mention in our written report that has been submitted to you, in 1999, we actually prepared a report looking at pesticides on the effects of salmon. That report called Diminishing Returns: Salmon Declines and Pesticides the impacts we found on fish are not simply direct and observable fish kills as I mentioned, but effects on immune systems making them more vulnerable to disease or predation or changes in behavior that can also affect their survival. And of course, it also can affect the feed, the small insects and other things that they feed on.

On top of that is that these fish can pick up contaminants, which then raise into question their healthiness as far as to be a nutritious food choice. Now it is mentioned here the nutritional aspects of pears and apples, and that is certainly true. However, I think people also have to realize that salmon is constantly regarded, wild salmon, in just about everything you look at. I think most recently from the USDA is probably among the top ten foods that people can eat. They are very rich in Omega 3 fatty acids and everything from helping with depression to heart disease to improving intelligence.

What we found in preparing our report is that at the time, in the 1990s, is that there were some 54 known pesticides that were being found in various salmon-bearing streams and rivers at levels that were well above those considered safe. The U.S. Geological Survey, for example, detected measurable concentrations of pesticides within many sampled areas in West Coast streams. Some pesticides were detected at levels of up to 1000 times the maximum concentrations allowed by EPA's own aquatic protection standards.

To me, that clearly indicated we had a dysfunctional system. We also found that EPA was not consulting under the FIFRA process under the ESA as required. As a result, we did go to court in 2001. That was mentioned here. We saw innumerable delays, but we do now have, in fact, a process that appears to start looking like it may, in fact, work, although it has gone in fits and starts over the past decade. But we would certainly urge that you give that an opportunity to work, work closely with the agencies, make sure they are communicating and that every effort is made to streamline the process without in any way weakening protections for the animals. But we would certainly urge you to, like I say, work closely, not hold everything up until NAS study comes out. But basically would look at the NAS for further guidance, but now to try to move ahead with implementation. Thank you.

[The prepared statement of Mr. Grader follows:]

**Statement of W.F. "Zeke" Grader, Jr., Executive Director,
Pacific Coast Federation of Fishermen's Associations**

Good morning, Chairmen and members of the Natural Resources and Agriculture Committees. My name is Zeke Grader. I am the Executive Director of the Pacific Coast Federation of Fishermen's Associations (PCFFA), a major U.S. fishing industry trade association centered on the U.S. west coast. PCFFA is in turn made up of 14 different member fishing and local port associations, collectively representing working men and women in the West Coast commercial fishing fleet. Our members harvest and provide healthy and nutritious seafood for America's table, and are the drivers of a billion-dollar west coast commercial fishing industry employing thousands of U.S. workers.

We wish to thank the two Committees for the opportunity to provide comments today on behalf of the West Coast fishing industry on the importance of crafting stronger pesticide controls to keep these highly toxic chemicals out of America's rivers, and in particular out of fish such as salmon which are an important part of the human food chain.

The current EPA pesticide protection rules have obviously failed. EPA-regulated pesticides are now found nearly everywhere in west coast rivers and are killing salmon, destroying salmon jobs, and endangering public health.

As you know, salmon are "anadromous," which means they begin their lives in inland fresh water streams, then move to the sea for several years, and they then return (typically three to five years later) from the ocean as adult spawners to lay their eggs in inland freshwater streams all along the U.S. west coast and Canada. There the young salmon must remain, some for months—in the case of coho salmon, one year—until they grow large enough to migrate to the ocean where they'll spend their adult lives. During all this time in fresh water, young salmon are very vulnerable to the dozens of agricultural chemicals (mostly pesticides) that can pollute West Coast rivers.

The great Pacific salmon runs have always been the work horse of commercial fishing on the West Coast. Now, however, many of these salmon stocks are overwhelmed by multiple stressors in our coastal rivers that 17 once-major salmon runs are so imperiled they are protected under the federal Endangered Species Act (ESA) as threatened or in danger of extinction. Another 11 stocks of closely related anadromous steelhead are also ESA-listed in these same river systems, and for the same reasons. For a current list of the west coast salmon and steelhead ESA listings and listing decisions see: www.nwr.noaa.gov/ESA-Salmon-Listings/upload/snapshot-7-09.pdf.

Steelhead, which is closely related to salmon, while not a commercially fished (excepting tribal fishing) species supports a vibrant inland recreational fishing industry that in turn supports thousands of additional sportfishing jobs and hundreds sportfishing businesses, large and small. This, too, is a billion dollar industry bringing jobs and dollars to many rural communities. Salmon and steelhead are collectively referred to as “salmonids.”

When salmon or steelhead stocks are ESA-listed, they cannot be harvested, and fishermen must make every effort to avoid them, which has included closing whole fisheries. This has been done all over the West Coast to protect these weakest stocks—yet still these ESA-listed stocks remain at very low numbers, some still heading toward extinction. Increased mortality from in-river pesticides, scientists now tell us, is one of the reasons these stocks are not recovering.

PCFFA identified the growing threat that water-borne pesticides present to west coast salmon runs in 1999, with the publication of *Diminishing Returns: Salmon Declines and Pesticides* (Feb. 1999), published by the Oregon Pesticide Education Network. That report is available on a PCFFA web site at: www.pcffa.org/salpest.htm. That report is, however, merely an overview of a representative sample of literally hundreds of peer-reviewed scientific reports and studies at the time (there are many more now) that clearly show how even extremely low but persistent concentrations of pesticides in rivers can greatly increase salmon mortality.

When that report came out, we were also shocked to find out that the US Environmental Protection Agency (EPA), unlike any other federal agency, had never consulted on the impacts of these EPA-registered pesticides on ESA-listed salmonids under ESA Sec. 7 as federal agencies are required by law to do for federal actions. The EPA had simply refused to do so for more than 25 years, since the ESA was first adopted into law in 1976.

As a result, in 2001 PCFFA joined as co-Plaintiff in the lawsuit, *Washington Toxics Coalition, et al. v. Dept. of Interior* (457 F. Supp. 2d 1158) (W.D. Wash. 2006) that subsequently required EPA to consult under Sec. 7 of the ESA, for the first time ever, on the impacts of 54 different commonly used but highly toxic pesticides on ESA-listed salmon and steelhead. PCFFA brought this suit to protect West Coast fishing industry jobs—and seafood consumers—from these chemicals in the river harming the nation’s valuable salmon runs. The end result of that suit, after yet more litigation (see ATTACHMENT B), was the current set of Pesticide Biological Opinions (Pesticide BiOps) that are now coming out of NMFS on a Court-ordered schedule.

This initial list target list of 54 pesticides and herbicides was not chosen at random. All of these 54 chemicals have been found at levels higher than maximum health standards in rivers on the west coast, they are among the most broad-spectrum and toxic of all pesticides, and therefore the ones most likely to impact salmon and steelhead generally, and so these were selected for first analysis. Some have been eliminated from the list in the analysis, which now consists of 37 chemicals. These are the worst of the worst for salmon. These are the chemicals now going through ESA Sec. 7 Consultation.

So far these Pesticide BiOps have concluded that, on the basis of the best available science, current EPA-endorsed pesticide practices for those chemicals analyzed will likely drive these already ESA-protected salmon runs towards extinction. This also means that these chemicals negatively impact other, far more abundant, salmon runs in these same rivers. And since these very same chemicals are also serious human health hazards, the fact that all these chemicals are being found in West Coast rivers that supply water to millions of people is also a serious—but as yet unaddressed—human health hazard.

It should be noted as well that PCFFA obtained an Injunction in that case against the further EPA-authorized uses of these 54 target pesticides within buffer zones comparable to those later required in the Biological Opinions, at least until that Sec. 7 Consultation could be completed. That Injunction, and those required buffer zones, have now been in effect since January 22, 2004.

GETTING BACK TO FUNDAMENTALS

In all the technical details of ESA Sec. 7 consultations and discussions (driven by chemical industry concerns about regulation), including some of the past discussions on this issue before these two Committees, many have lost track of some basic facts, including the following:

These Chemicals Are Poisons. It is often forgotten that agricultural pesticides and herbicides are poisons for both fish and humans. They are designed to be poisons and, while they may be useful in agriculture when applied at the correct time, place and dosage, once these chemicals escape into the nation’s rivers, they are nothing more than broad-spectrum, highly toxic poisons to both fish and humans.

These Chemicals Are Already In Our Rivers and Current EPA Protections Have Failed to Prevent It: Again, the original list of 54 different pesticides and herbicides we chose to sue on in *Washington Toxics Coalition, et al.* were not chosen at random. Not only are these chemicals all highly toxic to fish, each has been found by US Geological Service (USGS), many in multiple locations, in West Coast rivers at levels that far exceed National Academy of Sciences (NAS) recommended aquatic protection standards.

Among the many findings of these various USGS monitoring studies is that the highly toxic pesticides carbaryl, carbofuran, diazinon, chlorpyrifos and malathion were all found at levels well above NAS's Aquatic Life Criteria (ALC) standards, often multiple times and in multiple basins. For instance, diazinon was found at 400 times the ALC's maximums in the San Joaquin-Tulare river systems. Malathion was found at levels 45 times higher than ALC again in the San-Joaquin-Tulare systems. Malathion was also found at 30 times higher than ALC in the Willamette River in Oregon.

According to these USGS studies, these chemicals were also found frequently (dependent on basin): carbaryl up to 67% of the time; carbofuran up to 29% of the time; chlorpyrifos up to 52%; diazinon up to 100%; and malathion up to 33% of the widely scattered samples taken in several basins.

Among the many USGS government monitoring studies that have found these pesticides to be pervasive in river systems throughout the west coast are the following:

USGS Circular 1216 (Puget Sound, 1996–98) <http://wa.water.usgs.gov/pubs/misc/summary.rpt.html>

USGS Circular 1161 (Willamette, 1991–95) <http://pubs.usgs.gov/circ/circ1161>

USGS Circular 1160 (Upper Snake, 1992–95) <http://pubs.usgs.gov/circ/circ1160>

USGS Circular 1159 (San Joaquin-Tulare, 1992–95)
<http://pubs.usgs.gov/circ/circ1159>

USGS Circular 1144 (Columbia 1992–95) <http://pubs.usgs.gov/circ/circ1144>

In short, these nasty toxic pesticides are found in major salmon-bearing river systems nearly everywhere on the west coast. What all this means, bluntly, is that whatever protective rules the EPA now has in place are simply not working to keep these chemicals out of the nation's waterways. The committees were right to describe this as federal regulatory dysfunction.

If these commonly used chemicals are already in salmon-bearing rivers they are also in urban public water systems supplied from those same rivers. This represents a serious and growing—but largely unaddressed—public health hazard. All are highly toxic to humans, many are bioaccumulative in human tissue, several are human endocrine disrupters, and most are virulent carcinogens or mutagens or both. Few of them can be effectively filtered out from these public water systems by any currently available water filtering systems, most are very hard to detect and few are currently even tested for.

If, under EPA labeling controls now in effect, these 54 and many other agricultural pesticides and herbicides are getting into the nation's rivers, it is clear and convincing proof that current EPA restrictions against use of these chemicals in and around waterways is insufficient to keep them out. This simple fact is ignored in this debate by the chemical industry. If EPA rules under FIFRA are, as they claim, "already strong enough," then where did these chemicals in our rivers come from?

These Chemicals Kill ESA-Listed and Non-listed Salmonids Alike: The 54 commonly used pesticides and herbicides originally chosen as our target list for ESA Sec. 7 consultations in *Washington Toxics Coalition, et al. case* are all well known in the scientific literature as highly toxic, broad spectrum chemicals which can be fatal to fish. The studies cited for salmon mortalities in *Diminishing Returns: Salmon Declines and Pesticides* (Feb. 1999), represent only the tip of the iceberg of the massive number of studies in the scientific literature that indicate these chemicals are toxic to salmonids. Once these pesticides and other agricultural chemicals are in our nation's rivers, they not only kill ESA-listed salmon runs, but all other salmon runs as well.

Most of these 54 target chemicals have been in use for many years, some since shortly after World War II. Most are very broad spectrum toxins which kill both target pests and many beneficial species. Some (in particular carbofuran and azinphosmethyl) are now being phased out by EPA because of increasing pest resistance and widespread ecological toxic side effects. Most of these 54 chemicals are being replaced by second and third generation pesticides that are far less toxic and far more selective.

Once These Chemicals Are In Our Rivers, Society As a Whole Pays a High Price: When these poisons are allowed to enter the nation's waterways and kill salmon this depletes the salmon resource that supports thousands of salmon related jobs along the Pacific Coast, and deprives our nation's consumers of one of America's healthiest foods sources. Moreover, it instigates further ESA listings as otherwise healthy salmon stocks (and other fish and wildlife species) are in their turn damaged to the point where they also need federal protection.

In short, allowing these agricultural poisons to continue to enter the nation's rivers COSTS JOBS, jeopardizes human health and DAMAGES THE NATIONAL ECONOMY. These economic losses are now clearly overwhelming any economic benefits these chemicals might provide from their selective use in agriculture.

These chemical pollutants are an increasing public health hazard, including some which are known as human "endocrine disrupters" which can affect human growth and development, especially in infants and children, even at extremely low concentrations. According to EPA, the insecticide cararyl likely causes cancer in humans. Three of the pesticides under analysis (chlorpyrifos, malathion and diazinon) have been linked with attention deficit hyperactivity disorder in children. Many other studies show the dangers of other chemicals on this list to human health.

There Are Simple and Cost Effective Ways To Keep Most of These Chemicals Out of Our Rivers To Begin With. It is far more expensive to society as a whole to put poisons in rivers and then have to deal with the consequences to human health and fisheries, plus the added costs of filtering such poisons out of public water supplies (when that can be done at all), than to keep them out of our rivers in the first place. Fortunately, there are very simple ways to keep these chemicals away from rivers—the use of river bank "buffer zones" and substitution with less toxic alternatives, as discussed below.

CHEMICAL INDUSTRY COMPLAINTS ON THE CONSULTATION PROCESS ARE UNFOUNDED

The chemical industry and pesticide manufacturer's group CropLife has been particularly vocal about what it characterizes as the "serious flaws" in the Sec. 7 consultation process between NMFS and EPA. On January 26, 2011, eighteen members of the U.S. House of Representatives even asked the Council on Environmental Quality (CEQ) to halt or delay further federal evaluations of the effects of toxic pesticides on threatened and endangered west coast salmon and steelhead on the basis of these unverified—and largely false—CropLife complaints. A copy of our 28 March 2011 responses to CEQ debunking these claims is enclosed as ATTACHMENT A to this testimony.

Briefly, the major misstatements (and sometimes outright scare-tactic fabrications) CropLife and other agricultural interests have made to this Congress include the following:

- **Claim:** Riparian buffer zones required under the RPA's in the NMFS Biological Opinions will eliminate farming over large portions of current agricultural lands.

Response: This is nonsense. The buffer zones required in the Pesticide BiOps only restrict the use of a very few of some of the oldest, most toxic and increasingly obsolete pesticides right near rivers and streams. In nearly every instance when one of these highly toxic pesticides would otherwise be used for pest control, there are less toxic, and far more specific pest control alternatives. More are being developed. Agriculture can continue as usual using other newer and far more specific pesticides more wisely. And within these buffer zone, hand applications (as opposed to aerial sprays which drift considerably and thus require much larger buffers) are nearly always an option.

To give but one example of many of the alternatives available, in California, Oregon and Washington codling moth causes significant economic losses to apple growers. Four of the pesticides with Pesticide BiOps (carbaryl, chlorpyrifos, diazinon and malathion) are registered for use on this pest. However, most experts in the field now recommend more targeted and less toxic products and practices. The University of California-Davis Integrated Pest Management Guidelines include biological, cultural and options such as spinosad, vegetable oil sprays, kaolin clay products, and pheromones to disrupt codling moth mating. Replacing these older pesticides with better cultivation practices and less toxic alternatives is now common in the agricultural industry.

It should also be noted that the ongoing Injunction in the *Washington Toxics Coalition* case, which mandated no-spray buffer zones for all the 54 chemicals subject to the Pesticide BiOp consultation until consultation is completed, has been in effect since January 22, 2004—nearly seven years! Farmers have almost always been able both to find less toxic and more targeted chemical substitutes and to adapt in var-

ious ways. Very little productive acreage has been “eliminated” as originally foretold.

Buffer zones are common practice. EPA already requires various types of waterway “buffer zone” restrictions for many of these registered pesticides, as part of its FIFRA label restrictions. The common use of such “buffer zones” was noted by the Court in the *Washington Toxics Coalition* case, as follows:

“The evidence submitted. . . demonstrates that pesticide-application buffer zones are a common, simple, and effective strategy to avoid jeopardy to threatened and endangered salmonids. . . Neither EPA or CropLife dispute those basic principles. . . [C]urrent EPA effects determinations and expert recommendations hinge on the employment of buffer zones, such as those outlined by California county bulletins, to prevent jeopardy to threatened and endangered salmonids. . . Likewise, CropLife acknowledges the efficacy of buffer zones imposed by the most recent Reregistration Eligibility Decisions for several pesticides. . . Finally, the Court notes that the 20-yard and 100-yard buffer zones requested by plaintiffs are generally consistent with those recommended by EPA.” (*Washington Toxics Coalition*, Order 8 August 2003, pgs. 16–18, emphasis added)

The restricted pesticides evaluated so far in the Pesticide BiOps are generally outdated, broad-spectrum killers. Many are being phased out because they kill both pest species as well as beneficial species, thus often undercutting their effectiveness. Many of these EPA-approved pesticides are also linked to cancer, endocrine disruption and other serious health effects in humans, particularly children, the elderly, farm families and farmworkers. Those that are endocrine disruptors interfere with both fish and human hormones, causing developmental, neurological, reproductive and immune system problems in wildlife and humans alike.

- Claim: The current ESA process is completely duplicative of EPA’s FIFRA analysis, under which EPA already considers the effects of pesticides on fish and wildlife.

Response: The ESA consultation process as currently conducted in no way duplicates EPA’s current FIFRA pesticide evaluation processes because the ESA analysis asks very different questions. To the contrary, because EPA’s ecological risk assessment process fails (in all the ways discussed below) to adequately consider and protect the nation’s most threatened and endangered wildlife, the ESA Sec. 7 consultation process is an indispensable check on EPA’s inadequate species risk assessments. Moreover, EPA’s own internal ESA effects determinations also show that its FIFRA process to register pesticides is flawed because the EPA’s own “effects determinations” have nearly all concluded that pesticides that EPA has already approved under FIFRA are nonetheless likely to adversely affect listed species—see for instance www.epa.gov/espp/litstatus/effects/redleg-frog/index.html.

Furthermore, both NMFS (and for non-salmonids, US Fish & Wildlife Service) have considerably more experience with evaluating impacts on fish and wildlife than does EPA. That is, in fact, part of the Services’ statutory job description.

In its Pesticide BiOps, NMFS scientists have concluded that much of the methodology used by EPA is simply not sufficient to ascertain the impacts of these chemicals on ESA-listed salmonids. In its own toxicology studies, the EPA does not account for several effects on fish that occur in the real world in our streams, including: (a) impacts from chronic but low-concentration exposures that are not immediately lethal but which add to stress on the fish in various ways that can lead to increased mortality; (b) long-term behavioral impacts that may adversely affect how the fish survives in the long run, or make the fish more vulnerable to other sources of mortality such as predators or disease; (c) synergistic effects from the exposure to multiple pesticides simultaneously, even at low concentrations, as we would see in any typical river. NMFS does take these important, but much more subtle, real world impacts into account. The EPA does not.

Further,, EPA does not conduct most of its own research, but relies almost completely on data and studies provided to it by the chemical industry it regulates, few of which are ever peer-reviewed. Fewer still of these industry studies on these pesticides actually studied impacts on salmonids. Unlike EPA, however, NMFS has the facilities to conduct its own research and has done so specifically with regard to impacts of these chemicals on salmonids as part of the scientific background information needed for these pesticide BiOps.

As the courts have found, EPA’s ecological risk assessment process under FIFRA simply fails to address the impacts of these chemicals on species:

Washington Toxics Coalition v. Dep’t of Interior, 457 F. Supp. 2d 1158, 1184 (W.D. Wash. 2006) (concluding that “EPA’s risk assessment process is not only less protective than Service determinations, there is overwhelming evidence on the record that . . . EPA risk assessments . . . would actually re-

sult in harm to listed species.”); id. at 1193 (holding EPA’s risk assessment process contains “substantial flaws . . . [and is] highly likely (if not certain) to result in an overall under-protection of listed species.”)

More bluntly, the pesticide industry disputes the science only because it is science they cannot control, and that they do not want to hear. But these scientific decisions, many of which affect industries such as ours, as well as the health and welfare of millions of Americans, must be based on the “best available science,” not on the “most convenient (or profitable) conclusions.” Ignoring the increasingly large body of science showing the serious collateral impacts of certain highly toxic and broad-spectrum pesticides in the ecosystem is not a sound policy basis for curtailing this impacts analysis under Sec. 7 of the Endangered Species Act (ESA). Nor is it a sound basis for any kind of deregulation in this important public health arena.

While there are clearly scientific disputes between EPA and the Services over methodology that need to be ironed out, these scientific disputes have already been referred by EPA to the National Academy of Sciences’ National Research Council for a thorough analysis and resolution. Congress should let this process naturally unfold. Resolving scientific disputes is something that scientists should do, not politicians. Scientific disputes of this nature are not uncommon, and effective steps are being made now to resolve them. Nothing in the process to date justifies more delay—especially since the burden of delay could jeopardize industry jobs and the public’s health.

- Claim: The ESA Sec. 7 consultation process allows no input from the chemical industry or affected users, and does not consider the real-life circumstances in which these chemicals are used.

Response: This is an easy one to dispose of. Far from being a “closed process,” since the draft of the first biological opinion (“BiOp”) evaluating the effects of the organophosphates chlorpyrifos, diazinon, and malathion was released in 2008, EPA has released each draft BiOp specifically to solicit and consider input from pesticide manufacturers, local, state, and tribal governments, and the general public. It has published guidance outlining the procedures for input and established a docket number (EPA-HQ-OPP-2008-0654) for this specific purpose, available on the Internet.

To date, EPA has received over 300 written comments on the first three BiOps alone, including from each of the manufacturers, many pesticide users, various state agencies, and concerned members of the public. In addition, for each BiOp prepared, EPA and NMFS have held extensive meetings with pesticide manufacturers, and have received large amounts of information and material from those registrants. NMFS has documented this input and detailed how it considered the information it received in each of the BiOps issued thus far. For more details see the Letter to CEQ dated 28 March, 2011, enclosed as ATTACHMENT A.

As to considering “real world conditions,” this is exactly what NMFS does when it considers not only long-term behavioral impacts but also synergistic impacts of multiple pesticides working together, as they certainly do in real world streams. EPA only considers effects of one pesticide at a time in isolation, and then only for the so-called “active” ingredient, excluding the impacts of so-called “inert ingredients” in pesticide formulations, some of which are actually more toxic to fish than the registered ingredient. Thus it is EPA, not NMFS, which is not considering the “real world impacts” of these chemicals in the natural environment. This is one reason EPA’s FIFRA toxic risk analysis method has been criticized by both scientists and the courts.

- Claim: If these chemicals cannot be used for mosquito control, there will be outbreaks of west Nile virus and other serious diseases which will jeopardize human life.

Response: First off, none of the most common chemicals used for mosquito abatement are currently under ESA scrutiny.

Secondly, urgent public health or land management matters such as mosquito control or control of invasive species are not likely to be affected by these Pesticide BiOps. Special exemptions (such as ESA incidental take permits) can and have been carved out for these rare, and usually one-time, hazard abatement techniques. Use of integrated pest management techniques is also increasingly replacing the heavy-handed use of these kinds of highly toxic chemicals, and additionally many modern alternatives to these chemicals that are far most specific to mosquitoes are being developed or already available.

Third, in our January 22, 2004, Injunction in the *Washington Toxics Coalition* case, which enjoined the use of many of these same chemicals within certain buffer zones, contained the following specific exclusions:

“Based on EPA’s effects determinations, the stipulation of plaintiffs, or the evidence in the record. . . the Court determines that EPA’s authorization of the following Pesticide uses specified below is not vacated:

1. *Public Health Vector Control Programs*: Use of Pesticides for public health vector control as administered by public health entities.
2. *Noxious Weed Programs*: Use of the Pesticides for control of state-designated noxious weeds as administered by public entities, when such control program implements the following safeguards that NMFS routinely requires for such programs. . . .” (*Washington Toxics Coalition*, Order of Jan. 22, 2005)

IT IS FAILURE TO PROTECT ESA-LISTED SPECIES FROM PESTICIDES THAT PROMOTES GOVERNMENT WASTE AND INCREASES PRIVATE SECTOR ESA RESTRICTIONS

In light of the theme of this Hearing, which is on job costs from “Federal regulatory dysfunction” it should be obvious that it is past EPA failure to prevent harmful pesticides from getting into salmon-bearing rivers, harming ESA-listed and non-listed salmonids, and threatening public health that wastes government money and jeopardize jobs, including:

- (A) Further restricting the west coast commercial and recreational salmon fishing industries, jeopardizing the very resources upon which they both depend, and destabilizing tens of thousands of family wage jobs in coastal and inland salmon-dependent communities;
- (B) Making it that much harder to recover, and thus to eventually de-list, those species that are already ESA protected, essentially helping to keep them on the ESA list forever.
- (C) Driving currently abundant salmonid species into a downward population spiral, creating more ESA listings in the future.
- (D) Many hundreds of millions of dollars in combined federal, state and local landowner funds have now gone toward protecting endangered salmonids. Poisoning these species with federally-allowed pesticide practices that pollute rivers works at complete cross purposes with all existing salmon recovery efforts.
- (E) As more ESA-listed fish decline from pesticides, this just increases in severity the restrictions necessary on local landowners. Many Central Valley farmers, for instance, have pointed to “water pollution” as a main cause of depletion of San Francisco Delta salmon stocks (not to mention Delta smelt). But the more these fish stocks are depleted by pesticide pollution, the more irrigation water will be necessary to take from agriculture to help offset that other damage, e.g., diluting the pollution. It is thus just as much in the Central Valley farmers’ best interests to make sure these pesticides do not jeopardize ESA-listed fish in the San Francisco Bay-Delta Estuary as it is for fishermen. This is also true elsewhere in rivers throughout the West Coast, in most of which pesticides are serious problems for ESA-listed fish.
- (F) Causing serious public health concerns as toxic pesticides are increasingly found in drinking water and begin significantly entering the human food chain.

IN SUMMARY

In short, it makes no economic sense to be poisoning the nation’s rivers and salmon runs which support tens of thousands of jobs, simply to keep using certain highly toxic pesticides, most of which could be easily replaced with much less toxic alternatives.

The current Sec. 7 ESA consultations and their resulting Pesticide BiOps help us craft ways to keep these chemicals out of our nation’s rivers and away from urban water supplies in the first place. It is always far more cost effective to prevent a problem in the first place than to have to clean it up later—if it can be cleaned up at all.

And while conducting these decades-overdue ESA Sec. 7 consultations may burden the resources of EPA and the Services temporarily, the long-term solution is to provide the agencies the additional resources they need to speed up the process. The solution is not to deny the science, ignore polluted rivers, devastate the nation’s valuable salmon runs, turn a blind eye to serious human health problems, overturn the law—and then just hope for the best!

Mr. Chairmen, we do indeed have a dysfunctional federal regulatory system when it comes to regulating pesticide usage in order to protect food fish, jobs and human health. That was why PCFFA sued. PCFFA looks forward to working with you, the committees and members of Congress to ensure that the regulation of pesticides

will, in fact, *effectively* consider and protect our nation's valuable food fish, fishing-industry jobs—along with protection for farm workers, and human health. Thank you and I'll be happy to answer any questions.

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PCFFA APPENDIX A—Joint Letter to CEQ

DEFENDERS OF WILDLIFE ♦ EARTHJUSTICE ♦ NORTHWEST CENTER FOR ALTERNATIVES TO PESTICIDES ♦ PACIFIC COAST FEDERATION OF FISHERMEN'S ASSOCIATIONS ♦ INSTITUTE FOR FISHERIES RESOURCES

March 28, 2011

Nancy Sutley, Chair
Council on Environmental Quality
722 Jackson Place, N.W.
Washington, D.C. 20503

On January 26, 2011, eighteen members of the U.S. House of Representatives asked the Council on Environmental Quality to halt or further delay federal evaluation of the effects of toxic pesticides on threatened and endangered West Coast salmon and steelhead. That request, however, is based on a misunderstanding of the science underlying the required protections and on an inaccurate picture of the process that the National Marine Fisheries Service and the Environmental Protection agency have followed. We write to urge CEQ to instead use its resources and authorities to ensure that these agencies can effectively complete and immediately implement the long-overdue measures necessary to protect West Coast salmon and steelhead from the harm caused by these pesticides.

Specifically, the letter asks CEQ to intervene in the on-going Endangered Species Act (ESA) consultation process based on allegations that biological opinions have been prepared without an adequate opportunity for input from pesticide manufacturers and users and without considering the best available science on the levels of these chemicals found in salmon waters. Both of these contentions are incorrect.

First, the letter is based on a misunderstanding of the consultation process as it has unfolded for the eighteen pesticides that have been evaluated so far. Since the draft of the first biological opinion ("BiOp") evaluating the effects of the organophosphates chlorpyrifos, diazinon, and malathion was released in 2008, EPA has released draft BiOps *specifically* to solicit and consider input from pesticide manufacturers, local, state, and tribal governments, and the general public.¹ It has published guidance outlining the procedures for input and established a docket number (EPA-HQ-OPP-2008-0654) for this specific purpose at <http://www.regulations.gov/> `#!docketDetail;dt=PS;rpp=10;so=ASC;sb=postedDate;po=60;D=EPA-HQ-OPP-2008-0654`.

To date, EPA has received over 300 comments on the first three BiOps alone, including from each of the manufacturers, many pesticide users, various state agencies, and concerned members of the public. In addition, for each BiOp prepared, EPA and NMFS have held extensive meetings with pesticide manufacturers, and have received large amounts of information and material from those registrants. NMFS has described this input and detailed how it considered the information it received in each of the BiOps issued thus far.² The categorical statement in the House members' letter that EPA has not adequately consulted with the pesticide in-

¹ While this Organophosphate biological opinion ("OP BiOp") does not represent the first consultation evaluating the effects of a pesticide on a listed species, it is the first of many such consultations since the Court confirmed EPA's obligation to consult on its pesticide registrations and reregistrations more than eight years ago. *Washington Toxics Coalition v. EPA*, 413 F.3d 1024 (9th Cir. 2005). This and other recent biological opinions are the result of a process that began before 2002, when EPA first requested consultation for diazinon and bensulide. EPA's effects determinations for these and other pesticides required by *Washington Toxics Coalition* were made by December, 2004.

² See, e.g., OP BiOp at 16–21 (detailing meetings with registrants and nine file boxes of information provided to EPA by registrants alone); Biological Opinion re: Environmental Protection Agency Registration of Pesticides Containing Carbaryl, Carbofuran, and Methomyl ("Carbamate BiOp") (Apr. 20, 2009) at 6–16; Biological Opinion Environmental Protection Agency Registration of Pesticides Containing Azinphos methyl, Bensulide, Dimethoate, Disulfoton, Ethoprop, Fenamiphos, Naled, Methamidophos, Methidathion, Methyl parathion, Phorate and Phosmet (Aug. 31, 2010) at 6–23 (discussing extensive meetings, comments, and information exchanges between the agencies and the manufacturers, and public comments).

dustry and grower interest groups cannot be squared with the agencies' actions, EPA's notice and request for comments on each of these draft BiOps, and the extensive input received. We continue to support EPA's effort to solicit input from all interested groups and individuals as it completes other consultations and believe that the agencies have used their existing authorities to conduct this process in a transparent manner that allows for input from all affected parties and that will quickly achieve compliance with the law.

Second, as the amount of input into the process demonstrates, NMFS did not "ignore" the best available monitoring data and science relevant to the presence of these chemicals in salmon waters. To the contrary, each BiOp explicitly discusses the data relied upon, discloses gaps in that information, and details how NMFS dealt with any uncertainty. NMFS requested and analyzed the most current information that manufacturers, state agencies, and users were willing to provide—including voluntary measures and growers' best practices. For example, NMFS relied on extensive monitoring conducted by the United States Geological Survey, as well as data from state agencies like the California Department of Pesticide Regulation.³ In some West Coast watersheds, this monitoring revealed levels of these pesticides well above standards set to protect aquatic life—sometimes at concentrations 1000 times higher than accepted levels, presenting a risk not only to the fish and those people who may consume them, but also to human populations which also use these same rivers as a source for urban water supplies. Moreover, because use patterns and practices change and because high levels of these pesticides are routinely found in actual water samples, NMFS also properly focused on the legal uses allowed by the current pesticide labels.

NMFS comprehensively reviewed this data and all other information regarding the impacts of pesticides on salmon and ultimately concluded that current uses of these insecticides jeopardize the existence of these imperiled fish. It then required proven and time-tested protections that would help keep harmful levels of these chemicals out of salmon waters in the first place. Measures such as no-spray buffers, vegetative strips to catch run-off from fields, and limits on pesticide application rates during adverse weather conditions have been employed for years by state and federal regulators and effectively reduce the amount of pesticides that enter our waters.

The highly toxic pesticides that NMFS has so far examined in biological opinions, and which were the subject of the Washington Toxics Coalition lawsuit leading to this analysis, were not chosen at random. These organophosphate and carbamate pesticides are some of the most widely used and broadest-spectrum—as well as most dangerous—neurotoxic chemicals still used in both agricultural and/or urban insect control. Numerous cost-effective and less toxic alternatives to these pesticides already exist to meet the demand from farmers who often avoid the use of such heavy-handed broad-spectrum chemicals because they kill beneficial insects and can lead to greater pest problems over time.

Rather than further delaying this already long-overdue evaluation of the impacts of pesticides on threatened and endangered species, we urge CEQ instead to help the agencies focus their efforts and resources to implement the long-overdue measures required to protect salmon from the impacts of these lethal chemicals. While there have been some differences of opinion between EPA and the Services over interpretations of some of the science, the agencies themselves can and should resolve these differences. It should be scientists who make such scientific judgments, not politicians.

Sincerely,

Patti Goldman
Vice President for Litigation
Earthjustice
Zeke Grader
Executive Director
Pacific Coast Federation of Fishermen's Associations and the
Institute for Fisheries Resources

Kim Leval
Executive Director
Northwest Center for Alternatives to Pesticides

Jamie Rappaport Clark

³See, e.g., OP BiOp at 242–52 (discussing water quality and water monitoring studies); *id.* at 173–75 (citing USGS National Water-Quality Assessment Program data).

Executive Vice President
Defenders of Wildlife

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PCFFA APPENDIX B—Pesticide ESA Sec. 7 Litigation Chronology

Pesticides and West Coast Salmon Litigation Timeline

EPA's failure to fulfill its obligation under the Endangered Species Act (ESA) to protect threatened and endangered West Coast salmon and steelhead from toxic pesticides has unfortunately been the subject of extensive litigation. Fishermen, public health advocates, and conservation groups have been forced to repeatedly turn to the Courts to enforce the law, and EPA has fought them—and lost—every step of the way.

By 2000, a decade after the first runs of salmon were first protected under the ESA, EPA had not initiated consultation with NMFS over the effects on salmon of its registration or registration of hundreds of pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Fishermen and public health and environmental advocates formally notified EPA in July of 2000 that they intended to sue if EPA did not take steps to clear this backlog. After EPA took no action, these groups in 2001 filed litigation in the U.S. District Court of the Western District of Washington. Washington Toxics Coalition v. EPA, No. C01-132 (W.D. Wash.).

In 2002, the Court held that EPA violated its duty to consult under ESA section 7(a)(2) for at least 54 specifically identified pesticides. Washington Toxics Coalition v. EPA, No. C01-132C, 2002 WL 34213031 at *8-9 (W.D. Wash. July 2, 2002) The Court found that “[d]espite competent scientific evidence addressing the effects of pesticides on salmonids and their habitat, EPA has failed to initiate section 7(a)(2) consultation with respect to its pesticide registrations. . . . Such consultation is mandatory and not subject to unbridled agency discretion.” The Court then ordered EPA to make effects determinations and initiate consultations with NMFS regarding the 54 pesticides not later than December, 2004. *Id.* at *10.

To protect salmon during the consultation process, the Court in 2003 enjoined EPA from authorizing uses of the pesticides within prescribed distances of salmon-bearing streams, and required point-of-sale notifications regarding the dangers posed to salmon for domestic uses. In requiring these interim no-spray buffers around salmon-bearing waters, the Court found that:

The evidence submitted—including the declarations of *all* parties’ experts, reregistration eligibility decisions, EPA risk assessments, prior EPA consultations with the Fish and Wildlife Service, EPA’s reliance on California’s county bulletin buffer zones, and an EPA expert’s current section 7(a)(2) recommendations—demonstrates that pesticide-application buffer zones are a common, simple, and effective strategy to avoid jeopardy to threatened and endangered salmonids. Plaintiffs’ experts sufficiently articulate the general efficacy of buffer zones in preventing the migration of pesticides, via spray drift, surface runoff, or erosion, into salmonid-bearing waters.

Neither EPA nor Crop life dispute these basic principles.

Washington Toxics Coalition v. EPA, No. C01-132C, Order (Aug. 8, 2003) at 16.

After hearing from again from all parties, the Court set the specific buffers for specific pesticides and specific applications in a detailed order in January 2004. In addition to the interim buffers, the Court—upon agreement of the parties—carved out exceptions allowing these chemicals to be used where necessary for public health (such as mosquito control programs) and in fighting noxious weeds or invasive species. Washington Toxics Coalition v. EPA, No. C01-132C, Order (Jan. 22, 2004) at 9-10.

EPA, CropLife, and others appealed both the Court’s legal ruling that EPA must consult and the injunction to the Ninth Circuit Court of Appeals. The Court affirmed all aspects of the district court’s orders, including the injunction. Washington Toxics Coalition v. EPA, 413 F.3d 1024, 1029 (9th Cir. 2005).

By 2004, EPA had made effects determinations for all of the 54 pesticides at issue in Washington Toxics and had initiated consultations with NMFS on 37 of those pesticides that it deemed “may affect” listed salmon species. As of 2006, NMFS had not completed any of the required consultations for the 37 “may affect” pesticides, due to critical flaws in EPA’s risk assessment methodologies.

In another attempt to avoid its legal obligations under the ESA, the government adopted a set of “counterpart regulations” that would specifically govern the ESA consultation process for pesticides. These regulations allowed EPA to make its own ESA determinations based on its flawed risk assessment process without involving

the expert biologists at NMFS or FWS. To ensure that the consultations were based on the best available science and not on EPA's flawed risk assessments, fishermen, public health advocates and conservationists again returned to Court to challenge the counterpart regulations. *Washington Toxics Coalition v. Dep't of Interior*, 457 F. Supp. 2d 1158, 1193 (W.D. Wash. 2006)

The Court reviewed the extensive record documenting flaws in EPA's risk assessment process—including its failure to account for sublethal effects, synergistic impacts, and effects of "inert" ingredients in pesticide mixtures. *Id.* at 1182–93. The Court agreed that "EPA's risk assessment process is not only less protective than Service determinations, there is overwhelming evidence on the record that . . . EPA risk assessments . . . would actually result in harm to listed species." *Id.* at 1184. The Court emphasized that the Services therefore provided an essential check on EPA's assessments and set aside the challenged regulations because EPA's risk assessment process alone contained "substantial flaws . . . [and was] highly likely (if not certain) to result in an overall under-protection of listed species." *Id.* at 1193. EPA did not appeal this ruling.

In 2007, EPA and NMFS still had not completed consultation for a single one of the 37 pesticides covered by *Washington Toxics Coalition*. Fishermen and public health advocates therefore returned to court yet again to compel NMFS to complete the 37 consultations. *NW Coalition for Alternatives to Pesticides v. NMFS*, Civ. No. 07–01791 (W.D. Wash. Nov. 5, 2007). On July 30, 2008, NMFS and the plaintiffs in that action entered into a settlement agreement establishing a schedule for NMFS's completion of consultation on all 37 pesticides by late 2012. *See id.*, Stipulated Settlement Order (Dkt.# 21) (Aug. 1, 2008). That schedule has since been extended several times to accommodate longer comment periods agency workloads.

After EPA published drafts and solicited comment and input from pesticide users, state agencies, and the general public— and after NMFS met extensively with the pesticide industry and others during the consultation process—NMFS issued the first two biological opinions covering six pesticides in November 2008 and April 2009. These two biological opinions found that the broad-spectrum organophosphate pesticides diazinon, chlorpyrifos, and malathion, and carbamate pesticides, carbaryl, carbofuran, and methomyl, jeopardized nearly all species of West Coast salmon and steelhead and destroyed or adversely modified their critical habitat. In the biological opinions, NMFS required mitigation measures that would avoid these impacts, including no-spray aerial and ground buffers and application restrictions during adverse weather. Both biological opinions required EPA to implement these protections within one year. As of April 2011, EPA has yet to implement a single one of these—or any other protective measure to avoid the devastating impacts of these and other toxic pesticides to West Coast salmon runs.

Fishermen, public health advocates, and conservationists have been forced to turn to the Courts yet again in an effort to get EPA to fulfill its legal obligations and protect these fish. In November 2010, these groups challenged EPA's failure to implement salmon protections in these two biological opinions in U.S. District Court for the Western District of Washington. *NCAP v. EPA*, 2:10–CV–0199–TSZ (W.D. Wash.). Briefing in this case should begin in the summer of 2011.

The CHAIRMAN. Thank you very much. And I want to thank the panel for their testimony.

We are going to have some votes imminently and maybe if we proceed, we may be able to get through the questioning before the votes come. So at this time I would recognize the distinguished Chairman of the Agriculture Committee, Mr. Lucas, for five minutes.

Mr. LUCAS. Thank you, Mr. Chairman.

Dr. Edwards, you wrote significant concerns when you served at EPA regarding NOAA's biological opinions for pesticides. Are you aware of any changes NOAA Fisheries made to the first biological opinion in response to any feedback that it may have received from the pesticide users or pesticide registrants?

Dr. EDWARDS. There may have been some very minor changes, but there was nothing of consequence in terms of the outcome.

Mr. LUCAS. So it is fair to say then I guess I naturally would want to ask, and I think you confirmed that, did NOAA ever provide responses to public comments that you are aware of?

Dr. EDWARDS. Not to my knowledge. No.

Mr. LUCAS. Dr. Edwards, are you aware of any and have you reviewed any peer-reviewed articles from scientific journals that have documented a causal link between currently registered pesticides and the decline in listed species populations and/or the rate of recovery?

Dr. EDWARDS. No, sir.

Mr. LUCAS. Mr. Newhouse, are you comfortable that all data and information from California, Idaho, Oregon, and Washington agricultural agencies, growers groups, manufacturers of pesticides were factored in by NOAA prior to their finalizing any of these biological opinions?

Mr. NEWHOUSE. Mr. Chairman, that was exactly one of our concerns. In my letter last November to Secretary Locke I explained some of the concerns we have of our data that we have, real live data as far as our monitoring of streams in the State of Washington that were not taken into account. So my answer would have to be no I am not comfortable with that. I can't speak specifically to those things in other states.

Mr. LUCAS. To your knowledge, did NOAA ever consider reopening the biological opinion or issuing a supplemental opinion that factored in any new additional information or data?

Mr. NEWHOUSE. I do not have any knowledge of that. I do know that they did respond to my letter, saying that they did take our data into account, but found other data that had more precedence.

Mr. LUCAS. Dr. Edwards, ESA requires Federal agencies to use the best scientific data available as the basis for decisions. Knowing that the available information related to listed species will rarely, if ever be definitive, isn't the real problem between the EPA and the Services about how available information is used and how each office addresses uncertainty in its assessments? In other words, is the problem that the Office of Pesticide Programs assesses risks using a more traditional scientific method-based approach while the Services prefer to rely on more precautionary principle approach?

Dr. EDWARDS. I would say that that is true, at least in my opinion. And part of the reason I say that is in certain cases the Services have actually used what we call grey literature, which are unpublished studies that have not been peer reviewed in their biological opinions and EPA would not do that.

Mr. LUCAS. Repeat that description again of what they occasionally use, grey literature, if you would?

Dr. EDWARDS. Grey literature is literature that is not published nor has it been peer reviewed. It might be a poster presentation at a national meeting or something like that, but it hasn't actually gotten into a scientific journal.

Mr. LUCAS. That is fascinating, Mr. Chairman. I think my questions have been answered. I yield back the balance of my time.

The CHAIRMAN. The gentleman yields back his time. Mr. Sablan is recognized for five minutes.

Mr. SABLAN. Thank you very much, Mr. Chairman. Good afternoon everyone.

Mr. Grader, I have heard of the predictions for many runs of salmon to the Columbia River this year are less than half of what they were in just nine years ago. Is it true that even within the last two years many salmon runs have continued to decline or shown no improvement?

Mr. GRADER. It depends where you are looking. The Columbia River, for example, saw some very good runs last year. Run predictions are going to be less for this year. The Sacramento system, which I am the most familiar with, we are looking at some slight increases I think mostly I think because of a biological opinion having to do with water flows there and that we have those protections in place in 2008 and I think we are starting to see some benefits from that, although we have a long way to go.

Salmon populations do fluctuate and what we have to do, looking is what factors are affecting the productivity. Now we have often been criticized, and I think Chairman Hastings knows this, when we have water hearings about only focusing on water issues. But, in fact, we look both at the quantity of water that is available for those fish. Fish gotta swim, as they say. But also the quality of that water. And so in this case we look at is there ample flow in stream to make sure that you protect the fish life, but then also what about the quality of that water.

And many farmers, particularly in the Central Valley complain, rightfully so, that they are being asked to provide much flows that might otherwise be necessary to dilute pollution. We look carefully at what some of the sources of pollution are and not all of it, but much of it is from pesticides. We have looked at scientific data that indicate that these pesticides are harmful to the fish.

Now they may not result in a direct fish kill where you go out and look and see a bunch of fish floating on top of the water. But if they are affecting your behavior, their ability to survive at sea it certainly has an effect on how much fish then are available for our harvest.

Mr. SABLAN. I come from a Pacific Island, so we don't have salmon. But people talk about West Coast salmon and steelheads. Steelhead runs are stable, but isn't it also true that these runs fluctuate from year to year due to various human activities in fresh water and in other stressors?

Mr. GRADER. All fish populations vary from year to year, as you know, from being from the western Pacific. We know that agriculture production varies from year to year, depending on weather conditions. Now we can't always do something about ocean conditions. We can't always do something about the weather, as much as we would like to. But we certainly can have some effect over the things that we do, so that all we can hope for as far as weather and ocean conditions are have a good relationship with the Almighty, I think as far as the human factors we can do something about those and I think it is our obligation to do something about those.

Mr. SABLAN. So is it also true that up to 70 percent or more of the returns of salmon runs are made up of fish produced in hatcheries rather than wild fish?

Mr. GRADER. That is absolutely correct. In some cases it is even higher. The reason for that is these hatcheries were brought in, as Chairman Hastings knows, they were brought in primarily to mitigate for the impacts of dams and the lost habitat behind those dams and those hatcheries are there to mitigate.

I should say that whether they are hatchery fish or wild spawning fish, it really doesn't matter. When it comes to water quality, both of those fish are vulnerable. So if it is a hatchery fish, it is affected every bit as much by, say, pesticide applications or other water quality impairments as wild fish are.

Mr. SABLON. Thank you, Mr. Grader. And Chairman, I yield back.

The CHAIRMAN. I thank the gentleman for yielding back. I just want to point out, and I recognize myself for five minutes.

In my State of Washington, we have been keeping records of salmon runs returning to the Columbia River. Admittedly, they are different stocks, but in the last several years the salmon runs coming back to the Columbia River have exceeded what they have been since we started keeping records in 1938. And there is an article here in the San Jose Mercury News headlined "Pacific Salmon Fishermen Gear Up For Strong Season." The point is, there is a lot that goes into this as the testimony has suggested.

Dr. Edwards, you mentioned in your testimony when you were at EPA you had correspondence with NMFS. You were less than satisfied, my words, not your words with some of the responses. And you alluded to the fact that part of the reason you were less than enthused was because of what was excluded in the information in drawing conclusions.

Could you elaborate on what was—maybe a few examples of what was excluded that may or may not contradict other information that caused you some concerns when you were with EPA?

Dr. EDWARDS. The biological opinions did not utilize the most recently approved product labeling that actually included significant risk mitigation that had been achieved through EPA's reevaluation program, didn't include as we have noted here actual usage information from California and Washington State. And it also didn't include information we had provided on timing and location of use.

The CHAIRMAN. I want to ask Mr. Bushue and Mr. Mathison and Mr. Newhouse I think you are the only three active farmers on the panel and you obviously use these farm chemicals for whatever reasons that you have. Is it fair to say because of the cost of these farm chemicals that as a general rule most farmers who obviously get their living from the land and therefore have a very strong interest in making sure that land is continuing to be productive that you use these farm chemicals in the most prudent way that you possible can and for no other reason because of the economic impact that it may or may not have on your operation. Mr. Bushue, I would start with you.

Mr. BUSHUE. I think the clear answer is yes. Most of us use pesticides as part of an integrated pest management process. We do a lot of scouting, a lot of monitoring. We use them if we absolutely have to. As you pointed out, they are extremely expensive. We generally try to use what we can when we absolutely have to and it is all incorporated and rotational mechanical, biological processes.

But yes it is fair to say we use them and we use them when we have to, but judiciously and safely.

The CHAIRMAN. Mr. Mathison?

Mr. MATHISON. Our company actively farms close to 900 acres and we attempt to breakdown those into less than 10-acre blocks. And at times we will spray certain sections of the orchard, one or two acres, maybe the outside three rows. We do everything possible to limit the amount of material that we put in the orchard, both from a cost standpoint and also from the standpoint that we want to do the responsible thing to our orchards. My grandfather had a saying that farmers sometimes were excellent and some of the first environmentalists.

The CHAIRMAN. Mr. Newhouse, I know that Mr. Mathison said that he is a fifth generation. I think you are close to that I think in the Yakima Valley too. Go ahead.

Mr. NEWHOUSE. Thank you, Chairman.

You know actually we are working on number four, fourth generation now. I guess I would echo the comments of my farmer colleagues here on the panel. I can take shots at myself being part Dutch certainly has had an influence on my use of pesticides and chemicals. My goal is to use the minimum amount possible. And just as West indicated, not just for the cost factor, although that is a huge driving force, these materials let me tell you are expensive. Talk about sticker shock. You can have four, five, \$600 per gallon of material or more and they are not things that you just throw around without certainly paying attention to the bottom line.

But also as far as being stewards of the lands and the environment, we certainly want to use the least amount possible to have the minimum amount of impact on those beneficial insects as well as the people that we have working on our farms.

The CHAIRMAN. I appreciate your response because sometimes the impression is given for somebody that is not from farm country that those chemicals are used willy nilly. And that has been my experience that is not the case. In fact, one of the first jobs I ever had was being a spotter on aerial spray and before the technology got much better. Thank you very much.

I just want to remind Members that we have a vote going on right now and we have two other Members that want to ask questions. So I will recognize the gentleman from Massachusetts, Mr. Markey and then Mr. Thompson.

Mr. MARKEY. I thank the Chair very much.

Mr. Grader, do pesticides kill and impact both endangered and non-endangered species?

Mr. GRADER. The pesticides, once they are in the waterway are none discriminatory. They don't go out and select out an endangered or non-endangered salmon. They affect them both. Again, it depends on, and I think we heard here earlier how much may be sprayed in a stream where it is that the nature of the stream whether it is fast flowing or fairly still. Fairly still is what we find with coho salmon when they, over during the summer before they go to sea the following year.

Mr. MARKEY. So salmon, which provide jobs for fishermen up and down the West Coast are impacted by pesticides, would you expect

there to be restrictions like the ones your industry has experienced over the last three years?

Mr. GRADER. When anything affects the productivity of the salmon, whether it is ocean conditions such as an El Niño or what happened with the recent combination drought, excessive pumping in the Bay-Delta in the better part of this decade as well as perhaps something like pesticides getting in the stream that are extremely toxic, it affects then what our seasons are and whether or not we are allowed to fish. So, for example, when there was a fish kill in the Klamath River in 2002, we had almost a total closure of our fisheries in 2005 and 2006.

Mr. MARKEY. What are the direct and cascading economic impacts of closing the commercial and recreational salmon fisheries?

Mr. GRADER. What happens is one thing is we have 100 percent unemployment as far as fishermen go.

Mr. MARKEY. Could you say that number again?

Mr. GRADER. One hundred percent.

Mr. MARKEY. One hundred percent.

Mr. GRADER. It is not 25 or 30 percent. It is 100 percent.

Mr. MARKEY. How many are you talking about?

Mr. GRADER. You know the actual number of fishermen is no longer that great. I mean our number is in a couple of thousand for California and Oregon, the ones I am talking about. But then you get into the processing plants and the recreational fisheries and all that. From the last closures the studies indicated that we lost 23,000 jobs.

Mr. MARKEY. So the USGS regularly monitors surface water and groundwater throughout the nation. In its most recent report the USGS detected measurable concentrations of pesticides within most sampled areas. In West Coast streams some pesticides were detected at levels up to 1000 times the maximum concentrations allowed by EPA's own aquatic protection standards. Are you concerned that the pesticide concentrations in these streams are so far beyond the protection standards?

Mr. GRADER. That is what I indicated initially in my oral testimony here is that we do have a dysfunctional system. We looked not at the process, but what was actually in the water. I mean that really what is telling. And the fact is, is when you have pesticides that are a 1000 times the level they should be in those streams you have a problem.

Mr. MARKEY. So Mr. Grader, Malathion is a commonly used insecticide that can be used to control mosquitos. The label for this pesticide states that it is an "will permanently damage automobile paint. Cars should not be sprayed. If accidental exposure does occur, the car should be washed immediately." So if accidental exposure is dangerous for car paint, do you think it would be problematic if fish and wildlife were exposed to it?

Mr. GRADER. It is a little bit difficult to wash them. Yes, obviously it would be and I mean that is the reason we are concerned. I tell you the truth my organization has got its hand full of different issues it has to deal with and I just a soon not have to be here wrestling with this issue if it were not something that were of serious concern to us.

Mr. MARKEY. Thank you very much. Thank you, Mr. Chairman.

The CHAIRMAN. I thank the gentleman. The gentleman from Pennsylvania is recognized for five minutes.

Mr. THOMPSON. Thank you, Mr. Chairman.

Actually, given the votes waiting, I just have two rather quick questions for Dr. Edwards.

Dr. Edwards, has pesticide use increased, decreased, or stayed the same over the past decade and how have pesticides evolved over time in terms of their safety and effectiveness?

Dr. EDWARDS. EPA issued a report actually in February of this year where they discussed that issue exactly. And conventional pesticide use has declined in general over the past decade. But in particular, the use of organophosphate insecticides has declined more than 60 percent between the Year 2000 and 2007.

In terms of what I can tell you about newer pesticides, they are more specific in their mode of action. And as a result of that, they are generally less toxic to non-target organisms. But I would like to add that because of that specificity in mechanism of action insects and pathogens can more readily develop resistance to these newer chemistries. And so it is important that farmers have multiple options from which to chose.

Mr. THOMPSON. And ma'am, my final question. As the former Director of the Office of Pesticide Programs, would you describe the relationship between EPA and the Services as strained? And if that is so, why does that occur or why is that occurring in your opinion?

Dr. EDWARDS. I haven't worked at the agency for a year and a half, and so I really can't speak to the situation today. But when I was at the agency, yes the relationship was strained and I would attribute it to a couple of things. One is the deadlines from the lawsuits and the settlement agreements put everyone under a great deal of strain. And the second reason I would say is that it was very difficult for EPA scientists to understand the decisions or the recommendations that were being made by the Services because the science was so kind of mysterious I would say in terms of how the decisions were reached.

Mr. THOMPSON. Given the votes, I yield back.

The CHAIRMAN. The gentleman yields back?

Mr. THOMPSON. Yes, Mr. Chairman.

The CHAIRMAN. I just want to ask. You asked, all of you in one way or another said that we should look at legislation and it was very broad. It wasn't specific. So I just want to ask a question to all of you, and if I could just elicit a one-word response I would very much appreciate it.

In all of the legislation we should be looking at there seems to be a commonality that is driving a lot of this discussion and that is the Endangered Species Act. Should this Congress be looking at say for lack of a better word updating the ESA? And we will start with you, Ms. Beehler.

Ms. BEEHLER. In a one-word answer, yes.

The CHAIRMAN. Doctor?

Dr. EDWARDS. I would say yes. And in particular, I would look at an option to be able to implement counterpart regulations that would survive the courts.

The CHAIRMAN. Yes. Very good. Mr. Mathison.

Mr. MATHISON. Yes.

The CHAIRMAN. Secretary Newhouse?

Mr. NEWHOUSE. Yes, Mr. Chairman. But not to the detriment of endangered species.

The CHAIRMAN. No, that is not being suggested whatsoever at all. Good. Mr. Grader.

Mr. GRADER. I think what we need—yes, we do as far as funding the agencies. We have to have funding so they can carry out and go ahead with ensuring that these species are protected.

The CHAIRMAN. Good. I thank you for your response. We have a vote going on, so we are going to have to, as we say, eat and run.

I want to thank all of you very much for your testimony. The testimony may elicit other questions. And so within the next ten days or so if there you receive written questions, I would ask you to respond back as quickly as you possibly can.

And with that, no further business coming before the Joint Committee we will stand adjourned. Thank you very much.

[Whereupon, at 1:27 p.m., the Joint Committees adjourned.]

[Additional material submitted for the record follows:]

[A letter to Secretary of the Interior Ken Salazar from Hon. Bill Flores, a Representative in Congress from the State of Texas, submitted for the record follows:]

BILL FLORES
MEMBER OF CONGRESS
17TH DISTRICT, TEXAS

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Congress of the United States
House of Representatives
Washington, DC 20515-4317
April 15, 2011

COMMITTEE ON THE BUDGET

COMMITTEE ON NATURAL RESOURCES
SUBCOMMITTEE ON
ENERGY AND MINERAL RESOURCES
SUBCOMMITTEE ON
FISHES, WILDLIFE, OCEANS AND
TERRITORIAL AFFAIRS

COMMITTEE ON VETERANS' AFFAIRS
SUBCOMMITTEE ON
OVERSIGHT AND INVESTIGATIONS

The Honorable Ken Salazar
Secretary
U.S. Department of the Interior
1849 C Street, N.W.
Washington, DC 20240

The Honorable Rowan Gould
Acting Director
U.S. Fish and Wildlife Service
1849 C Street, N.W.
Washington, DC 20240

Re: Application FWS-R2-ES-2009-N159; 20124-1112-0000-F2

Dear Secretary Salazar and Director Gould:

I am writing to inquire about U.S. Fish and Wildlife Service's (FWS) review of Oncor's application for its permit under the Endangered Species Act Section 10(a)(1)(b). This permit was initiated in 2008, and I am concerned for the lack of progress in the permitting process over the past two and a half years.

It is my understanding that Oncor has worked diligently with FWS to meet all federal requirements and had a mutual goal of completing the process by June 2011. However, it now appears that this goal is no longer within reach. They have expressed concerns that the benefits of these critical transmission projects would also be deferred causing project costs to rise, which would ultimately be passed along to consumers.

I respectfully request a status update on this permit. Thank you for your attention to this matter.

Sincerely,



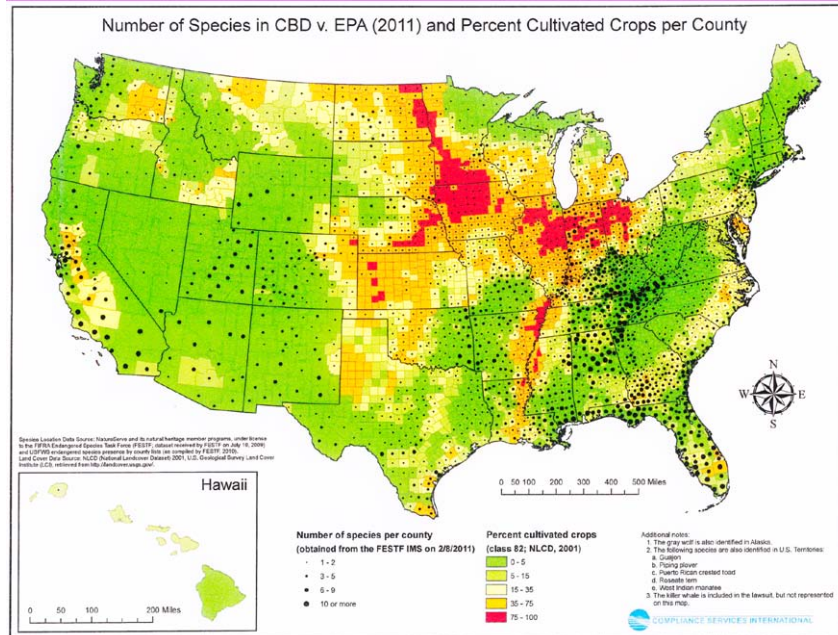
Bill Flores
Member of Congress

Cc: The Honorable Doc Hastings
The Honorable John Fleming
Regional Director Benjamin Tuggle

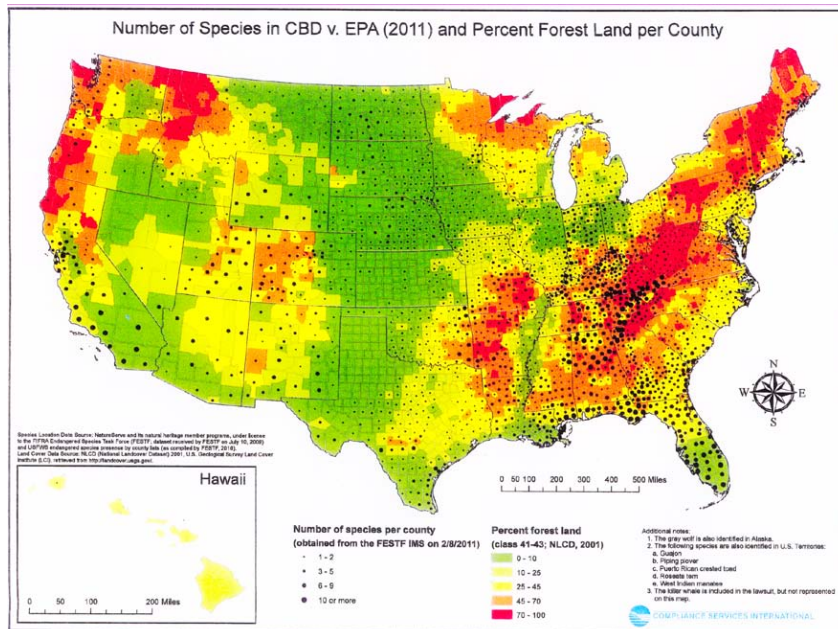
[The documents listed below have been retained in the Committee's official files.]

- Hobbs, Aaron, President, Responsible Industry for a Sound Environment, Written testimony
- Minor Crop Farmer Alliance, Letter addressed to Chairman Hastings and Chairman Lucas

[A map entitled “Number of Species in CBD v. EPA (2011) and Percent Cultivated Crops per County” follows:]



[A map entitled “Number of Species in CBD v. EPA (2011) and Percent Forest Land per County” follows:]



[Charts on "California Waters Impaired by Pesticides" submitted for the record by Hon. Grace F. Napolitano, a Representative in Congress from the State of California, follow:]

**California 2006 Causes of Impairment for California Waters
Prepared by the U.S. EPA Office of Water**

[Description of this table](#)

NOTE: Click on a cause of impairment (e.g. pathogens) to see the specific state-reported causes that are grouped to make up this category. Click on the "Number of Causes of Impairment Reported" to see a list of waters with that cause of impairment.

Cause of Impairment Group Name	Number of Causes of Impairment Reported
Pesticides	312
Pathogens	245
Metals (other than Mercury)	228
Nutrients	140
Polychlorinated Biphenyls (PCBs)	103
Salinity/Total Dissolved Solids/Chlorides/Sulfates	103
Mercury	101
Sediment	87
Total Toxics	77
Organic Enrichment/Oxygen Depletion	47
Toxic Organics	45
Temperature	37
Trash	37
Ammonia	33
Dioxins	27
pH/Acidity/Caustic Conditions	27
Toxic Inorganics	24
Nuisance Exotic Species	24
Other Cause	20
Algal Growth	17
Taste, Color and Odor	15
Cause Unknown - Impaired Biota	12
Turbidity	8
Flow Alteration(s)	6
Habitat Alterations	5
Fish Consumption Advisory	3
Oil and Grease	2
Noxious Aquatic Plants	1
Cause Unknown - Fish Kills	1

Total: 1,787 Causes of Impairment

California Waters Impaired by Pesticides:, Reporting Year 2006
Prepared by the U.S. EPA Office of Water

Description of this table

NOTE: Click on the underlined Waterbody Name for a detailed Listed Water Report. Click on the underlined "Waterbody Map" for a map of the Listed Water.

<u>State</u>	<u>Waterbody Name</u>	<u>Map</u>	<u>State Basin Name</u>	<u>Location</u>
CA	<u>Abalone Cove Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Alamo River</u>	Data Unavailable	Colorado River Basin	
CA	<u>Amarillo Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Anaheim Bay</u>	Data Unavailable	Santa Ana	
CA	<u>Balboa Beach</u>	Data Unavailable	Santa Ana	
CA	<u>Bear River, Lower (Below Camp Far West Reservoir)</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>Big Rock Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Bianco Drain</u>	Data Unavailable	Central Coast	
CA	<u>Bluff Cove Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Buena Creek</u>	Data Unavailable	San Diego	
CA	<u>Butte Slough</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>Cabrillo Beach (Outer)</u>	Data Unavailable	Los Angeles	
CA	<u>Calaveras River, Lower</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>Calleguas Creek Reach 1 (Was Mugu Lagoon On 1998 303(D) List)</u>	Data Unavailable	Los Angeles	
CA	<u>Calleguas Creek Reach 2 (Estuary To Potrero Rd- Was Calleguas Creek Reaches 1 And 2 On 1998 303d List)</u>	Data Unavailable	Los Angeles	
CA	<u>Calleguas Creek Reach 4 (Was Revolon Slough Main Branch: Mugu Lagoon To Central Avenue On 1998 303d List)</u>	Data Unavailable	Los Angeles	
CA	<u>Calleguas Creek Reach 5 (Was Beardsley Channel On 1998 303d List)</u>	Data Unavailable	Los Angeles	
CA	<u>Calleguas Creek Reach 9a (Was Lower Part Of Conejo Creek Reach 1 On 1998 303d List)</u>	Data Unavailable	Los Angeles	
CA	<u>Calleguas Creek Reach 9b (Was Part Of Conejo Creek Reaches 1 And 2 On 1998 303d List)</u>	Data Unavailable	Los Angeles	

CA	<u>Calleguas Creek Reach 10 (Conejo Creek (Hill Canyon)-Was Part Of Conejo Crk Reaches 2 & 3, And Lower Conejo Crk/Arroyo Conejo N Fk On 1998 303d List)</u>	Data Unavailable	Los Angeles	
CA	<u>Calleguas Creek Reach 11 (Arroyo Santa Rosa, Was Part Of Conejo Creek Reach 3 On 1998 303d List)</u>	Data Unavailable	Los Angeles	
CA	<u>Calleguas Creek Reach 13 (Conejo Creek South Fork, Was Conejo Cr Reach 4 And Part Of Reach 3 On 1998 303d List)</u>	Data Unavailable	Los Angeles	
CA	<u>Carbon Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Carquinez Strait</u>	Data Unavailable	San Francisco Bay	
CA	<u>Castlerock Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Castro Cove, Richmond (San Pablo Basin)</u>	<u>Waterbody Map</u>	San Francisco Bay	
CA	<u>Central Basin, San Francisco (Part Of Sf Bay, Central)</u>	<u>Waterbody Map</u>	San Francisco Bay	
CA	<u>Coachella Valley Storm Water Channel</u>	Data Unavailable	Colorado River Basin	
CA	<u>Colorado Lagoon</u>	Data Unavailable	Los Angeles	
CA	<u>Colusa Basin Drain</u>	Data Unavailable	Central Valley	
CA	<u>Cottonwood Creek (San Marcos Creek Watershed)</u>	Data Unavailable	San Diego	
CA	<u>Coyote Creek</u>	Data Unavailable	Los Angeles	
CA	<u>Del Puerto Creek</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>Delta Waterways (Central Portion)</u>	Data Unavailable	Central Valley	
CA	<u>Delta Waterways (Eastern Portion)</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>Delta Waterways (Export Area)</u>	Data Unavailable	Central Valley	
CA	<u>Delta Waterways (Northern Portion)</u>	Data Unavailable	Central Valley	
CA	<u>Delta Waterways (Northwestern Portion)</u>	Data Unavailable	Central Valley	
CA	<u>Delta Waterways (Southern Portion)</u>	Data Unavailable	Central Valley	
CA	<u>Delta Waterways (Stockton Ship Channel)</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>Delta Waterways (Western Portion)</u>	<u>Waterbody</u>	Central	

		Map	Valley	
CA	<u>Dominguez Channel (Lined Portion Above Vermont Ave)</u>	Data Unavailable	Los Angeles	
CA	<u>Dominguez Channel Estuary (Unlined Portion Below Vermont Ave)</u>	Data Unavailable	Los Angeles	
CA	<u>Elkhorn Slough</u>	Data Unavailable	Central Coast	
CA	<u>English Canyon</u>	Data Unavailable	San Diego	
CA	<u>Escondido Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Escondido Creek</u>	Data Unavailable	San Diego	
CA	<u>Espinosa Slough</u>	Data Unavailable	Central Coast	
CA	<u>Feather River, Lower (Lake Oroville Dam To Confluence With Sacramento River)</u>	Data Unavailable	Central Valley	
CA	<u>Five Mile Slough (Alexandria Place To Fourteen Mile Slough)</u>	Waterbody Map	Central Valley	
CA	<u>Flat Rock Point Beach Area</u>	Data Unavailable	Los Angeles	
CA	<u>Harding Drain (Turlock Irrigation District Lateral #5)</u>	Data Unavailable	Central Valley	
CA	<u>Huntington Harbour</u>	Data Unavailable	Santa Ana	
CA	<u>Imperial Valley Drains</u>	Data Unavailable	Colorado River Basin	
CA	<u>Ingram Creek (From Confluence With Hospital Creek To Hwy 33 Crossing)</u>	Data Unavailable	Central Valley	
CA	<u>Ingram Creek (From Confluence With San Joaquin River To Confluence With Hospital Creek)</u>	Waterbody Map	Central Valley	
CA	<u>Inspiration Point Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Islais Creek</u>	Waterbody Map	San Francisco Bay	
CA	<u>Jack Slough</u>	Waterbody Map	Central Valley	
CA	<u>Kings River, Lower (Island Weir To Stinson And Empire Weirs)</u>	Data Unavailable	Central Valley	
CA	<u>La Costa Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Lake Calabasas</u>	Data Unavailable	Los Angeles	
CA	<u>Lake Chabot (Alameda Co)</u>	Data Unavailable	San Francisco Bay	
CA	<u>Las Flores Beach</u>	Data Unavailable	Los Angeles	

CA	<u>Las Tunas Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Long Point Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Los Angeles Harbor - Cabrillo Marina</u>	Data Unavailable	Los Angeles	
CA	<u>Los Angeles Harbor - Consolidated Slip</u>	<u>Waterbody Map</u>	Los Angeles	
CA	<u>Los Angeles Harbor - Fish Harbor</u>	<u>Waterbody Map</u>	Los Angeles	
CA	<u>Los Angeles Harbor - Inner Cabrillo Beach Area</u>	Data Unavailable	Los Angeles	
CA	<u>Los Angeles River Estuary (Queensway Bay)</u>	<u>Waterbody Map</u>	Los Angeles	
CA	<u>Los Angeles River Reach 1 (Estuary To Carson Street)</u>	Data Unavailable	Los Angeles	
CA	<u>Los Angeles/Long Beach Inner Harbor</u>	Data Unavailable	Los Angeles	
CA	<u>Los Angeles/Long Beach Outer Harbor (Inside Breakwater)</u>	Data Unavailable	Los Angeles	
CA	<u>Los Cerritos Channel</u>	Data Unavailable	Los Angeles	
CA	<u>Machado Lake (Harbor Park Lake)</u>	Data Unavailable	Los Angeles	
CA	<u>Main Drainage Canal</u>	Data Unavailable	Central Valley	
CA	<u>Malaga Cove Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Malibu Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Malibu Lagoon Beach (Surfrider)</u>	Data Unavailable	Los Angeles	
CA	<u>Marina Del Rey Harbor - Back Basins</u>	<u>Waterbody Map</u>	Los Angeles	
CA	<u>Mcgrath Lake</u>	<u>Waterbody Map</u>	Los Angeles	
CA	<u>Merced River, Lower (Mcswain Reservoir To San Joaquin River)</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>Mission Creek</u>	Data Unavailable	San Francisco Bay	
CA	<u>Moro Cojo Slough</u>	Data Unavailable	Central Coast	
CA	<u>Mosher Slough (Downstream Of I-5)</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>Moss Landing Harbor</u>	Data Unavailable	Central Coast	
CA	<u>Mud Slough</u>	Data Unavailable	Central Valley	

CA	<u>Natomas East Main Drainage Canal (Aka Steelhead Creek, Downstream Of Confluence With Arcade Creek)</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>New River (Imperial County)</u>	<u>Waterbody Map</u>	Colorado River Basin	
CA	<u>Newman Wasteway</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>Newport Bay, Lower</u>	Data Unavailable	Santa Ana	
CA	<u>Newport Bay, Upper (Ecological Reserve)</u>	Data Unavailable	Santa Ana	
CA	<u>Nicholas Canyon Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Oakland Inner Harbor (Fruitvale Site, Part Of Sf Bay, Central)</u>	<u>Waterbody Map</u>	San Francisco Bay	
CA	<u>Oakland Inner Harbor (Pacific Dry-Dock Yard 1 Site, Part Of Sf Bay, Central)</u>	<u>Waterbody Map</u>	San Francisco Bay	
CA	<u>Old Salinas River Estuary</u>	Data Unavailable	Central Coast	
CA	<u>Orcutt Creek</u>	<u>Waterbody Map</u>	Central Coast	
CA	<u>Orestimba Creek (Above Kilburn Road)</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>Orestimba Creek (Below Kilburn Road)</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>Oso Flaco Lake</u>	<u>Waterbody Map</u>	Central Coast	
CA	<u>Palo Verde Outfall Drain And Lagoon</u>	Data Unavailable	Colorado River Basin	
CA	<u>Palo Verde Shoreline Park Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Paradise Cove Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Peck Road Park Lake</u>	Data Unavailable	Los Angeles	
CA	<u>Petaluma River</u>	Data Unavailable	San Francisco Bay	
CA	<u>Petaluma River (Tidal Portion)</u>	<u>Waterbody Map</u>	San Francisco Bay	
CA	<u>Peters Canyon Channel</u>	Data Unavailable	Santa Ana	
CA	<u>Pogi Canyon Creek</u>	Data Unavailable	San Diego	
CA	<u>Point Dume Beach</u>	Data Unavailable	Los Angeles	

CA	<u>Point Fermin Park Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Port Hueneme Harbor (Back Basins)</u>	Data Unavailable	Los Angeles	
CA	<u>Portuguese Bend Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Puddingstone Reservoir</u>	Data Unavailable	Los Angeles	
CA	<u>Puerco Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Redondo Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Richardson Bay</u>	Waterbody Map	San Francisco Bay	
CA	<u>Rio De Santa Clara/Oxnard Drain No. 3</u>	Data Unavailable	Los Angeles	
CA	<u>Robert H. Meyer Memorial Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Royal Palms Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Sacramento San Joaquin Delta</u>	Data Unavailable	San Francisco Bay	
CA	<u>Salinas Reclamation Canal</u>	Data Unavailable	Central Coast	
CA	<u>Salinas River (Lower, Estuary To Near Gonzales Rd Crossing, Watersheds 30910 And 30920)</u>	Waterbody Map	Central Coast	
CA	<u>Salinas River (Middle, Near Gonzales Rd Crossing To Confluence With Nacimiento River)</u>	Waterbody Map	Central Coast	
CA	<u>Salinas River Lagoon (North)</u>	Data Unavailable	Central Coast	
CA	<u>Salt Slough (Upstream From Confluence With San Joaquin River)</u>	Waterbody Map	Central Valley	
CA	<u>San Diego Bay Shoreline, Near Switzer Creek</u>	Waterbody Map	San Diego	
CA	<u>San Diego Creek</u>	Data Unavailable	Central Coast	
CA	<u>San Diego Creek Reach 1</u>	Data Unavailable	Santa Ana	
CA	<u>San Francisco Bay, Central</u>	Waterbody Map	San Francisco Bay	
CA	<u>San Francisco Bay, Lower</u>	Data Unavailable	San Francisco Bay	
CA	<u>San Francisco Bay, South</u>	Waterbody Map	San Francisco Bay	

CA	<u>San Joaquin River (Mendota Pool To Bear Creek)</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>San Joaquin River (Bear Creek To Mud Slough)</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>San Joaquin River (Mud Slough To Merced River)</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>San Joaquin River (Merced River To Tuolumne River)</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>San Joaquin River (Tuolumne River To Stanislaus River)</u>	Data Unavailable	Central Valley	
CA	<u>San Joaquin River (Stanislaus River To Delta Boundary)</u>	Data Unavailable	Central Valley	
CA	<u>San Juan Creek</u>	<u>Waterbody Map</u>	San Diego	
CA	<u>San Leandro Bay (Part Of Sf Bay, Central)</u>	<u>Waterbody Map</u>	San Francisco Bay	
CA	<u>San Marcos Creek</u>	Data Unavailable	San Diego	
CA	<u>San Pablo Bay</u>	<u>Waterbody Map</u>	San Francisco Bay	
CA	<u>San Pablo Reservoir</u>	Data Unavailable	San Francisco Bay	
CA	<u>San Pedro Bay Near/Off Shore Zones</u>	Data Unavailable	Los Angeles	
CA	<u>Santa Clara River Estuary</u>	Data Unavailable	Los Angeles	
CA	<u>Santa Clara River Reach 6 (W Pier Hwy 99 To Bouquet Cyn Rd) (Was Named Santa Clara River Reach 8 On 2002 303(D) List)</u>	Data Unavailable	Los Angeles	
CA	<u>Santa Maria River</u>	<u>Waterbody Map</u>	Central Coast	
CA	<u>Santa Monica Bay Offshore/Nearshore</u>	Data Unavailable	Los Angeles	
CA	<u>Sea Level Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Smith Canal</u>	<u>Waterbody Map</u>	Central Valley	
CA	<u>Stanislaus River, Lower</u>	Data Unavailable	Central Valley	
CA	<u>Stevens Creek Reservoir</u>	Data Unavailable	San Francisco Bay	
CA	<u>Suisun Bay</u>	Data Unavailable	San Francisco Bay	
CA	<u>Tembladero Slough</u>	Data Unavailable	Central Coast	

CA	<u>Tijuana River</u>	Data Unavailable	San Diego	
CA	<u>Tijuana River Estuary</u>	Data Unavailable	San Diego	
CA	<u>Topanga Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Trancas Beach (Broad Beach)</u>	Data Unavailable	Los Angeles	
CA	<u>Tuolumne River, Lower (Don Pedro Reservoir To San Joaquin River)</u>	Data Unavailable	Central Valley	
CA	<u>Ventura Marina Jetties</u>	Data Unavailable	Los Angeles	
CA	<u>Wadsworth Canal</u>	Data Unavailable	Central Valley	
CA	<u>Watsonville Slough</u>	Data Unavailable	Central Coast	
CA	<u>Whites Point Beach</u>	Data Unavailable	Los Angeles	
CA	<u>Zuma Beach (Westward Beach)</u>	Data Unavailable	Los Angeles	

[A statement submitted for the record by Hon. David Rivera, a U.S. Representative in Congress from the State of Florida, follows:]

**Statement of The Honorable David Rivers, a Representative
in Congress from the State of Florida**

Mosquito control, in South Florida especially, is not only nuisance control, but a control for public health purposes.

Since 2009, South Florida has reported 95 cases of dengue fever. These were the first cases of dengue fever reported in Florida since the 1930's. Last year, there were 12 cases of human infection of West Nile virus in Florida.

Mosquito control agencies are currently governed by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The law mandated extensive testing for public health insecticides according to EPA guidelines prior to their registration and use. This process ensures that insecticides available for mosquito control do not represent unreasonable risk to health or the environment when used as directed.

However, as a result of a court decision, the EPA recently announced that mosquito control agencies will also require National Pollutant Discharge Elimination System (NPDES) permit, under the Clean Water Act. It is estimated that the paperwork burden resulting from this new permitting requirement will exceed \$50 million nationally.

Given these tough budgetary times at all levels of government, I believe it is irresponsible to burden our mosquito control agencies to absorb these duplicative costs. Without additional funding streams available, resources to meet these new requirements will have to come at expense of core mosquito control health and welfare missions.

It is absolutely unacceptable to allow duplicative "paperwork" to divert limited and essential resources from mosquito control's life-saving work.

I would like to ask the EPA if any special consideration should be given to mosquito control agencies that already meet FIFRA requirements from also requiring NPDES permits? Where does FIFRA fall short in failing to address environmental concerns?

What, if anything, is the EPA proposing to help mosquito control agencies across the country to reduce costs so that they can focus on their core mission to protect public health and not waste valuable resources complying with duplicative paperwork?

[A letter submitted for the record by The Honorable Gregorio Kilili Camacho Sablan follows:]

May 2, 2011

The Honorable Doc Hastings
Chairman
House Committee on Natural Resources
U.S. House of Representatives
1301 Longworth House Office Building
Washington, DC 20515

The Honorable Edward J. Markey
Ranking Member
House Committee on Natural Resources
U.S. House of Representatives
1301 Longworth House Office Building
Washington, DC 20515

The Honorable Frank D. Lucas
Chairman
House Committee on Agriculture
U.S. House of Representatives
1301 Longworth House Office Building
Washington, DC 20515

The Honorable Collin C. Peterson
Ranking Member
House Committee on Agriculture
U.S. House of Representatives
1301 Longworth House Office Building
Washington, DC 20515

RE: Joint Public Hearing Entitled “At Risk: American Jobs, Agriculture, Health and Species—The Costs of Federal Regulatory Dysfunction” to American Jobs, Agriculture, Health and Species

Dear Chairmen Hastings and Lucas and Ranking Members Markey and Peterson:

We appreciate your interest in issues related to agriculture, jobs, public health and endangered species protection and look forward to the joint hearing now scheduled for May 3. The issue of pesticide regulation, in particular, is drawing needed scrutiny because of the interplay between the Federal Insecticide, Fungicide, and Rodenticide Act (“IFRA”), which regulates pesticide registration and labeling, and the laws that protect the nation’s wildlife, waters, and environmental health.

Our organizations and the millions of Americans we represent strongly support a rigorous, scientifically based solution to this issue, one that fully protects America’s waters, human health and endangered species. Unfortunately, for nearly 20 years the Environmental Protection Agency (“EPA”) has failed to meet its obligations under the Endangered Species Act to consult with the U.S. Fish and Wildlife Service (“FWS”) and the National Marine Fisheries Service (“NMFS”) on the impacts of pesticide use and registration on threatened and endangered species. To the extent EPA has consulted, it has largely failed to implement the recommendations of expert wildlife agencies that are necessary to protect salmon and other imperiled species from dangers of pesticides.

Many EPA-approved pesticides are linked to cancer, endocrine disruption, developmental problems, and other serious health effects in humans, particularly children, the elderly, farm families and farmworkers. Endocrine disruptors interfere with hormones, causing developmental, neurological, reproductive, and immune system problems in wildlife and humans alike. Emerging science further indicates that these chemicals have transgenerational effects, so low level exposures today may be transmitted via epigenetic modifications that harm subsequent generations. Just last week, a new study presented evidence that exposure to organophosphate pesticides in the womb lowers I.Q.

Center for Plant Conservation
Clean Water Action
Concerned Citizens for Clean Air
Cornell Laboratory of Ornithology
Deer Creek Valley Natural Resources Conservation Association
Defenders of Wildlife
Delaware Valley Ornithological Club

Delmarva Ornithological Society
Detroit Audubon Society
Earthjustice
Endangered Habitats League
Endangered Species Coalition
Environment America
Environment for the Americas
Farmworker Justice
Friends of Dyke Marsh
Friends of Pool 9—Upper Mississippi River Refuge, Inc.
Hawk Mountain Sanctuary
Jacobs Farm/Del Cabo, Inc.
League of Conservation Voters
Lane County Audubon Society
Maine Organic Farmers and Gardeners Association
Natural Resources Defense Council
New Jersey Audubon
Northwest Center for Alternatives to Pesticides
Northwest Environmental Defense Center
Oregon Toxics Alliance
Oregon Wild
Pesticide Action Network North America
Pesticide Free Zone
Pesticide Watch
Purple Martin Conservation Association
Rogue Riverkeeper
Safer Pest Control Project
Salem Audubon Society
Salmon Protection and Restoration Network (SPAWN)
San Francisco Baykeeper
Sierra Club
Swanton Berry Farm
Tennessee Ornithological Society
The Endocrine Disrupter Exchange
The Trumpeter Swan Society
The Xerces Society for Invertebrate Conservation
Turtle Island Restoration Network
WildEarth Guardians
Wildlife Center of Virginia
Wisconsin Society for Ornithology

